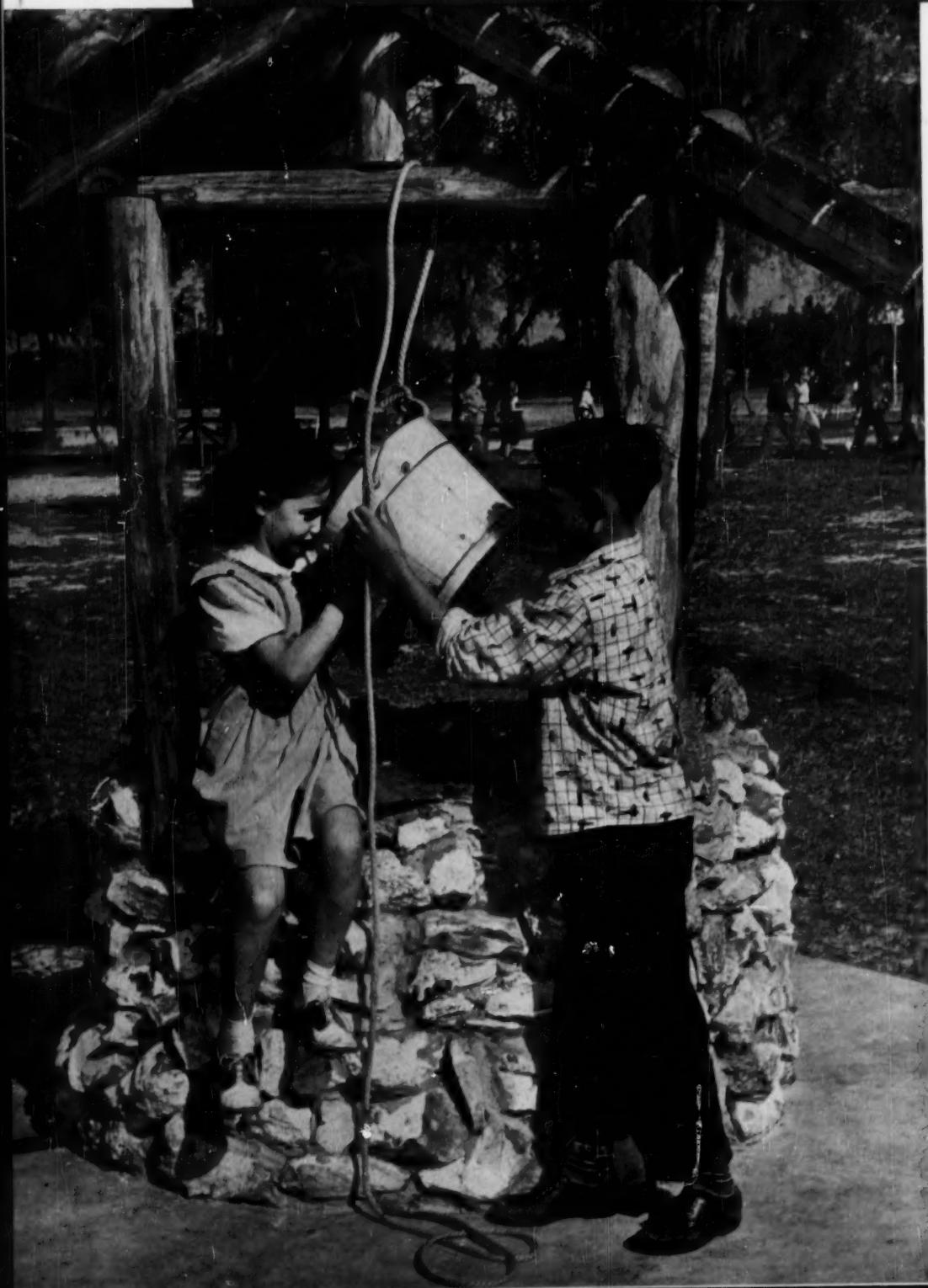


AUGUST
1956

The School Executive



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(page 56)



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The School Executive

AUGUST 1956

VOLUME 75 NUMBER 12

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COVER A wishing well is just one feature of the delightfully landscaped 32-acre site of Twin Lakes Elementary School, Tampa, Florida (photo courtesy *The Tampa Tribune*).

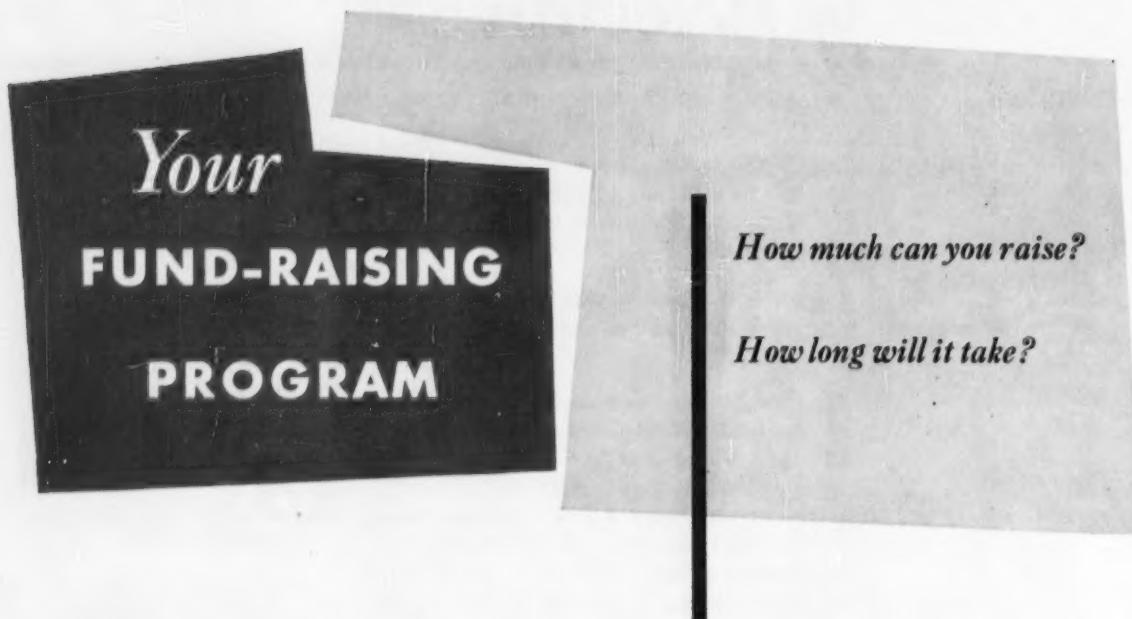
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Preview of September

Paul J. Misner, this year's president of the AASA, continues the September custom followed by his predecessors and writes a letter to the school administrators of America. We are proud to present it as our number-one item. The Green Sheet is devoted to a discussion of school lunches; Elizabeth Lamson, New York State's efficient Director of the school lunch program has prepared the manuscript. The issue also will include an article by Principal Earl Lightcap of Edgewood, Maryland, on planning and selecting lunchroom equipment. In this issue we announce the Sixth Annual Competition for Better School Design, and give necessary information for entering. The Planning Section deserves your special attention. It will deal with what 22 communities are doing through their schools to improve their communities. The wealth of material has been pulled together and prepared by our assistant editor, Grace Strub. We have never published anything more important and stimulating. There are many other articles and features which space prevents mentioning here. We are proud of the issue and believe you will agree it is one of our best.

Sincerely
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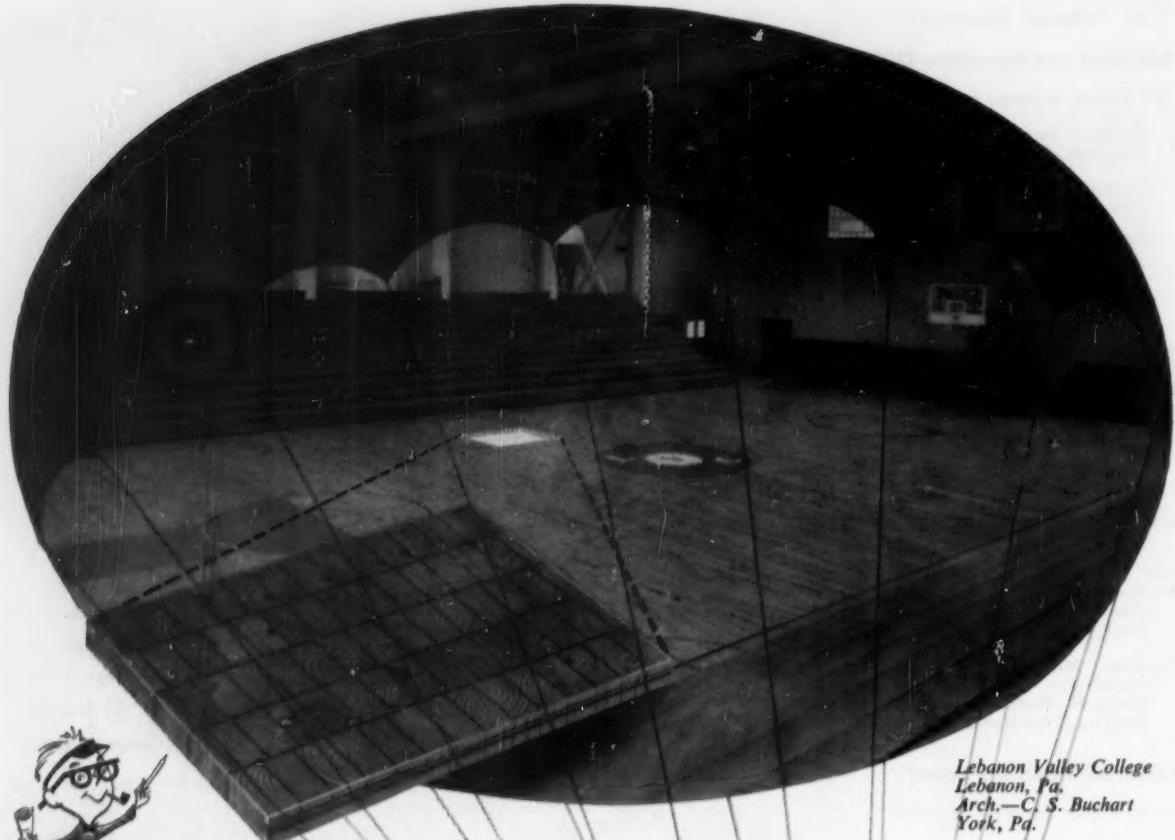
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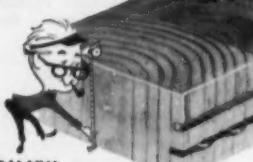
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AS I SEE IT

by Walter A. Gocking

The NEA Building

A BUILDING IS UNDER construction in the city of Washington which is a symbol of the teaching profession. The National Education Association headquarters building is rapidly reaching another stage in the total plan. It is going to be a wonderful building. When completed, it will house comfortably and efficiently the 600 employees who compose the headquarters staff. Its exterior appearance will blend harmoniously with other buildings in monumental Washington. Situated strategically at 1201 16th Street Northwest, it is at the center of national and world happenings.

Above everything else, the building symbolizes the profession of teaching. In its very construction this symbolism is evident. From a central core which was the former headquarters building (long since outgrown), wings have been added indicating not only the growth of the Washington staff but, maybe more important, symbolizing the great growth of the teaching profession. It was only yesterday that the total number of teachers in America was less than 100,000. Today that number is rapidly approaching 150,000, and the number must continue to increase.

The building portrays unity. Made up of several parts constructed at different times, the completed structure will form an integrated and working unit. Housed in this building will be representation of all phases of American education: classroom teaching, administration, elementary education, secondary education, higher education, adult education and rural education, plus units which cut across all organization lines such as the Educational Policies Commission. These symbolize the scope and unity of the teaching profession itself.

THE BUILDING MAKES provision for many diverse groups who are concerned with some phase of the far-flung educational enterprise. As we move about the building we find a group involved with international education. A little further on is located a group concerned with audio-visual materials. Then we come across a section working on the problems of childhood education. As we continue our tour, we realize that education is a complicated and intricate business. It has many facets and

all somehow must be directed to the end that people's needs for education are met and satisfied. This, too, the building typifies.

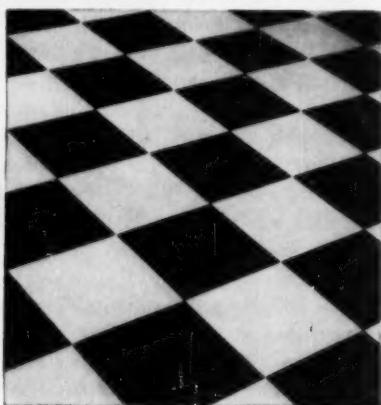
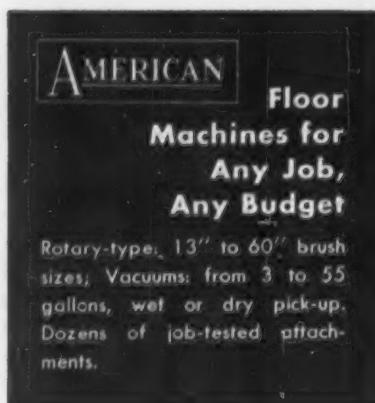
The building also makes provision for educational meetings and conferences. These groups meet together to agree on common goals and to develop programs for their attainment. Not to be forgotten are the relations of American teachers with the teachers of other lands. The common facilities of the building make possible direct communication, desirable integration and the development of unity of purpose and action. Once again we are struck with its symbolism, the need for unity and togetherness on the part of all those who teach.

WITHIN THE BUILDING there is a beehive of activity. All kinds of things take place. Typewriters and duplicating machines clatter endlessly. People rush hither and thither. One observes a person who is busy over a manuscript, two people in conference, a group of 20 discussing an important issue, clerical workers engaged in endless but necessary routine. And maybe occasionally, let us hope, there is a person dreaming dreams of a better tomorrow to be achieved through the process of education. All this, too, is symbolic of the work of teachers in communities and states and around the world.

This building, costing more than six million dollars, belongs to the teachers of America. They gave the money for its construction. Teacher representatives did the planning and guided the architects in their interpretation. Every member of the teaching profession who has had a part in making this building possible has a right to a bit of righteous pride in what he, in concert with his fellows, accomplished. As members of the teaching profession visit Washington and have the opportunity to tread the halls of their building and see its many facilities, they will be glad to be a member of the group which made possible this beautiful building.

More important, experiencing this building will enhance their pride of being members of the great profession of teaching. All this and more is symbolized in the new headquarters building of the National Education Association.

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KEYNOTES /

comments on the educational scene

Ten years of NCPEA

TEN YEARS AGO, in 1946, those who teach in universities to prepare school administrators for our schools, did not know one another, had never counseled together on the job confronting them, had never worked together toward common goals. Each group of university professors went its own way, complacent that it had done its whole job if it did its individual best.

Then, in 1946, these professors were invited to meet together. Arrangements were made for their housing and entertainment. Many came. They got acquainted with one another. They worked together. They became friends. Suspicions died. They found they liked one another, they profited from exchanging views and together they discovered ways to improve their programs.

Now ten years have passed. Each year, the group of professors of educational administration and selected advisors have met, and spent a full work week together. These have been ten good and fruitful years, and NCPEA members feel that programs for the preparation of administrators have been improved as a result of their working together and sharing of knowledge.

Shifting administrators

EVERY YEAR SEES a considerable shifting of school administrators from one school system to another. Of course there is good reason for it. Administrators die, retire, leave the profession, and yes, sometimes get fired. The positions thus made vacant have to be filled.

And hence, the inevitable chain of circumstances is set in motion. Mr. X from Tompkins accepts the vacancy created by the retirement of Mr. A at Pearce City. Mr. Y at Henryville is chosen to succeed Mr. X. Someone has to succeed him, and on and on the chain operates.

Nevertheless it raises a good question: is the cause of good education bettered by this constant shifting of top personnel from one community to another? And, is it good for the administrator who shifts?

It would seem that there should be some basic impelling reasons which would cause Mr. X to decide to leave his present position to move to one in a community where he is a stranger and to which he must adjust before he can contribute.

Certainly such reasons should involve more than salary, size of community, personal power and prestige. Ultimately, the administrator will be judged by what he did rather than the number and size of positions he held.

America's pride—its youth

IN THESE DAYS when scarcely a day goes by in which the press does not feature some headline which tells of crime committed by youth, too many citizens conclude that all, or at least most, youth are delinquents. Indeed the

character and numbers of crimes involving young people do create a serious problem for society and its institutions. We would like to believe that in America, with all of its advantages, no youth would stray from the straight though narrow path. That some do show the need for the best methods we can devise to eliminate the causes.

On the other hand, regardless of the headlines, the vast percentage of youth are not delinquent. American children today are a credit to their families, to society's institutions and to their nation. Most young people are living symbols of the best characteristics of real Americans. The future of America is safe in their hands.

What makes a school board good?

RECENTLY WE SAW two school boards in action and had an opportunity to appraise their approaches to a problem and the ways they arrived at decisions.

One board was a well established one, with its total membership having served for a considerable period of time. The other was a relatively new board, with the result that the members had insufficient opportunity to know and understand each other well, and had not had the opportunity as a group to understand thoroughly the problems with which they were confronted.

The new board wanted quick decisions. The result was decisions based on insufficient evidence, and with personal prejudice much in evidence. The more established board made decisions also, but it seemed to realize that haste is often wasteful, and can result in error.

The two boards serve to illustrate that an important element in good school board action lies in maturity of procedure and action. School administrators have much responsibility to help their boards to gain such wisdom, and until they do, to caution them to go slowly.

Creativity vs. conformity

AS ONE WATCHES a teacher and a group of children at work, as one reads about aims and goals of education, one wonders whether it is the teacher's and the school's purpose to influence pupils to conform to a common set of values or standards.

Is the aim to emphasize and secure as much "alikeness" as possible? Or is the purpose to aid each pupil to be as creative and normally individualistic as possible? Or, are there some instances where the aim is conformity at one time and creativity at another?

One wonders if the people of our communities have really thought enough about this issue. Which do they want for their own children? Which builds a better community? The vast preponderance of practice seems to be, in the main, to cause pupils to conform. It is only occasionally that we have seen creativity emphasized. Is this what teachers and schools should be doing?

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SCHOOL PLANT

news and views

School Buildings—1960

What might we expect future secondary schools to be? According to Cyril G. Sargent, Director, Center for Field Studies, Harvard Graduate School of Education:

The school buildings of 1960 should express the results of the long hard look we are taking at secondary education. Secondary education in many ways has lost touch with social reality. I suspect the harder and more thorough the look, the more vigorous will be the resulting changes in designs of educational programs and, hence, in school buildings.

Perhaps we can substitute soon some of these positive directions for the negative subterfuge we have all too often resorted to—that of making flexibility a *total* solution to educational planning.

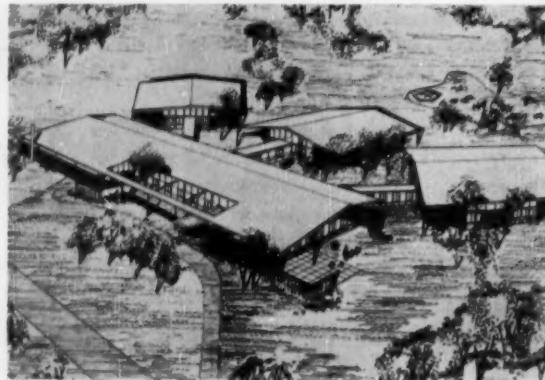
Books Aid Busy Educators and Architects

From School Program to School Plant by John Herrick, Ralph McCleary, Wilfred F. Clapp and Walter F. Bogner, recently published by Henry Holt & Co., offers a comprehensive guide to the process of planning a school in terms of its educational program.

The *Building Science Directory*, released by the Building Research Institute, inaugurates a continuing guide to sources of information on building industry research and technical developments. Copies for non-members are \$2 and may be obtained from B.R.I., 2101 Constitution Avenue, Washington 25, D. C.

Selected References on School Finances, Circular 462, has been prepared by the U.S. Office of Education to facilitate finding published material dealing with school

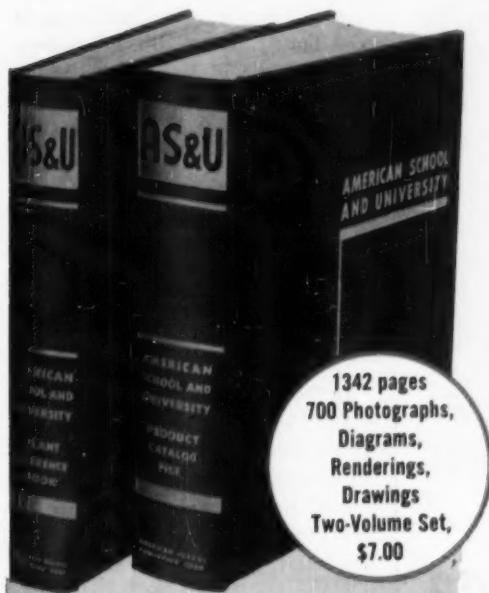
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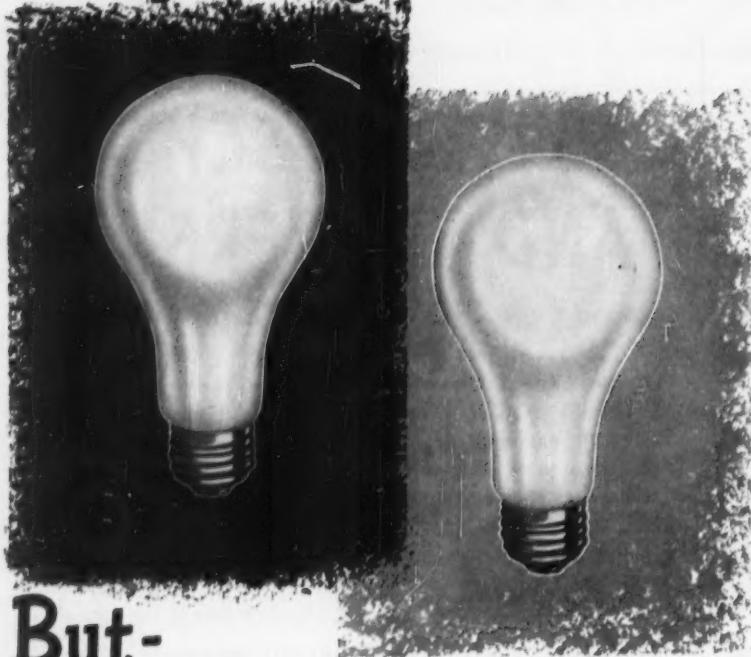
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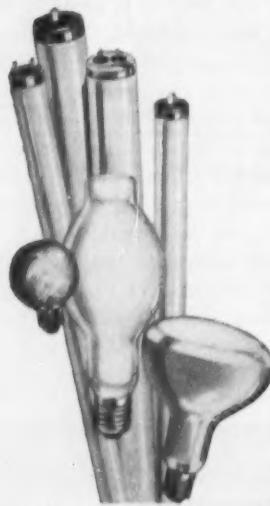
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School Plant

news and views

finance. It may be obtained from the Government Printing Office, Washington 25, D.C.; price 35¢.

Whoops A School

Frank Wynkoop, AIA, Carmel, California, has produced the documentary, *Whoops a School*, which deals with the Atwater, Calif., Elementary School. The film depicts some of the complexities involved in building schools, the careful research developed in solving construction problems and some of the newer techniques used in school construction.

This 16mm film has a running time of 18 minutes and will be released this month.

Review Time?

In making plans for the next school year, superintendents and high school principals all over America should find the month of August a good time to review the purposes and programs of secondary schools and their implications for educational plants. As one source of ideas, "A New Look at Secondary Education"—the RANDOM FALLS IDEA—may prove helpful and stimulating. (See *The School Executive*, March, 1956.)

College Students Must Sleep

The seventh annual School Building Survey conducted by *American School and University* reported that slightly more than \$150 million were expended for college dormitory and residence construction in 1955. This represented the largest single expenditure for college construction.

In the current issue of *American School and University*, 1956-1957, 28th edition, three articles describe some of the latest trends pertaining to college dormitory and residence construction: "Cooperative Dormitories for Men at Oregon State College;" "Distinctive Dormitories at Rutgers University;" and "Henderson College's New Apartments for Married Students."

Pamphlets of Interest

Instructional Program

How to Educate the Gifted Child is a collection of practical suggestions gathered by the Committee on Exceptional Children and the reporters of *Exchange Magazine*, publication of the Metropolitan School Study Council. Copies available from the study council at 525 W. 120 St., New York 27. Price: \$1.00.

Work-Experience Laboratories is geared for students preparing for careers in distributive occupations. Office of Education.¹ Price: 15¢.

Requisites for Economic Literacy, by Galen Jones and Baldwin Lee, is a reprint from the February, 1956 issue of *The Bulletin* of the National Association of Secondary-School Principals. Council for Advancement of Secondary Education, NEA.² Price: 10¢.

Some Basic Education Principles and Their Application in Early Adolescence (Grades 7, 8, 9) is a fine study of fundamental principles underlying education today. New England School Development Council, 20 Oxford St., Cambridge 38, Mass. Price: members, 45¢; non-members, \$1.00.

Course of Study in Distribution is the syllabus for New York City schools. Board of Education, 110 Livingston St., Brooklyn 1.

Curriculum Development in the Elementary Schools "sets forth the over-all framework within which the elementary schools function." Board of Education, City of New York, 110 Livingston St., Brooklyn 1.

Mathematics 1-2 is geared for the early elementary grades. Memo-

randum on the Teaching of Division is designed to help students understand mathematical concepts. Board of Education, City of New York, 110 Livingston St., Brooklyn 1.

School and Community

Fort Dodge Schools at Work, Issue on Reading. The publication is put

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(continued on page 120)

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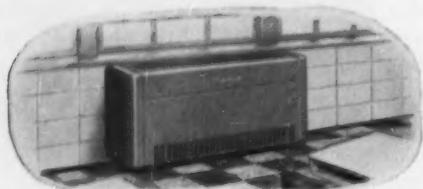
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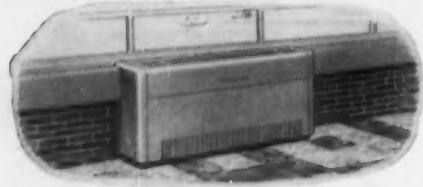
¹Office of Education publications are available through the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

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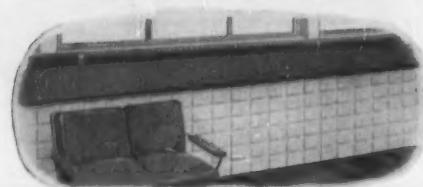
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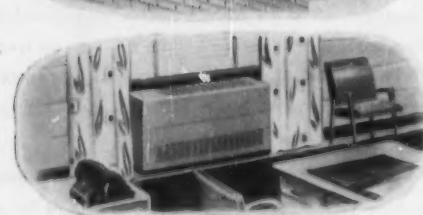
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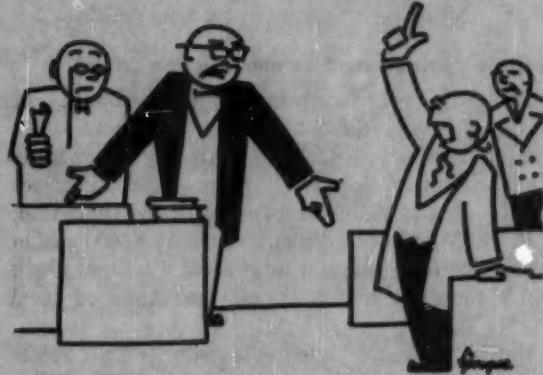


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OUR SCHOOLS

what the citizen wants to know about education



by BELMONT FARLEY

Director, Division of
Press and Radio Relations
National Education Association
Washington, D. C.

THE MEASURE H. R. 7585, to provide federal aid to school construction, introduced by Congressman Augustine B. Kelley (D., Pa.) last year, was defeated on July 5, 1956 by a vote of 224 to 194 by members of the House of Representatives.

On a desk in the office of the House Rules Committee a heavy paperweight had rested on this bill until June 20, 1956 when, by an 8-3 vote, it was cleared for floor action.

If the bill had been considered on its merits, it could have become an act in ten days. Fred Hechinger, education writer for the *New York Herald-Tribune*, with the aid of Congressmen themselves, who are good at nose-counting, estimated that there were only 70 Congressmen who were out-and-out opponents of this bill. About 45 of them are Republicans; about 25 of them, Democrats.

The major reasons, as reported in the press, for the Kelley bill's failure, were the rejection of the administration-backed "need" formula (aid on basis of state resources, percentage of income and school-age population) amendment and the inclusion of the Powell anti-bias proposal.

In an analysis of the Capitol Hill massacre, James Reston (*New York Times*, July 6) pointed out that since H. R. 7585 provided for aid to public school construction only, there would have been religious group opposition to the measure.

As observed in the news and editorial columns of the *New York Times*, "the Southern vote probably would have been the same," even without the anti-segregation amendment, since many

Kelley vs. Powell on Capitol Hill

A report of frustrated efforts to provide federal aid to school construction

Southerners "expected to be denied funds by an appropriation bill rider or by administrative action."

A comparable bill with bi-partisan support, ready to be acted upon by the Senate, had seemed even more certain of passage in that body than its companion measure in the lower house.

The President of the United States in a special message to Congress advocated the action proposed in both of these documents. He has reiterated at White House press conferences his insistence that such legislation be enacted. Adlai Stevenson, whose name has been mentioned in connection with a Presidential candidacy, has, on a number of occasions, indicated that he hopes such action will be taken. Estes Kefauver has also given it his blessing.

Among widely representative organizations that have supported such legislation before Congressional committees are: AFL-CIO, American Jewish Congress, American Institute of Architects, American Library Association, American Veterans of World War II, Brotherhood of Railroad Trainmen, International Association of Machinists, National Child Labor Committee, National Congress of Parents and Teachers, National Farmers' Union and the National School Boards Association.

The White House Conference on Education called by President Eisenhower, beginning in grass roots conferences in the states and reflecting public opinion throughout the nation, advocated this legislation by a two-to-one vote. A Gallup poll on a nation-wide basis showed that 67 percent of the public favor the principal purposes of these bills. Only 24 percent indicated their opposition to it. The House bill was turned over to the Rules Committee, after it had passed the Committee on Education and Labor of that body by a vote of



**They support federal aid to school construction.
Will their strength and ours bring it to pass?**

21 to 9, and stayed there for almost a year.

It would be difficult to find anyone who offers either evidence or opinion that there are enough classrooms to accommodate American children today. A school facilities survey conducted by the U. S. Office of Education in 1953 showed that nearly a third of the children enrolled in school at that time were affected by the classroom deficit.

This survey has now been brought down to date. States and local school districts plan to build 476,000 classrooms by September, 1959 to house an estimated 18,467,000 pupils. The total cost of meeting the school plant needs by 1959-60 will be \$16.01 billion. Many school districts won't have enough money to pay for the classrooms they will need. One school district, out of every six covered by the survey, will not be able to build enough facilities, unless it finds new sources of money or increased help. If these districts must depend on their own resources, there will be a deficit of 212,000 classrooms which would have cost \$7 billion to build.

The reasons for a shortage of school housing for American children are quite clear. During a long period of depression, school building programs were curtailed or neglected altogether for economic reasons. Two decades of war and its aftermath demanded the use of construction materials for the sinews of war and national defense. The competition for such materials has, of course, skyrocketed prices and again hundreds of school systems find themselves unable to finance the school housing they need.

The situation has been widely reported in the press. There can be few Americans ignorant of the fact that there are not enough roofs to shelter the school children of the United States.

Collier's magazine said editorially, "The pro-

vision of adequate educational facilities is a primary obligation upon America at any time. Today it is more than an obligation—it is a practical necessity, a function of survival." This editorial in the March 2 issue of *Collier's* is typical of the attitude of most of the press toward the nation's responsibility to meet current school needs.

Proposed plans aimed at construction crisis

The bills introduced into the two houses of Congress would have met these needs in quite similar fashions. S.2905, commonly known as "the administration bill," proposed total direct grants of \$1.25 billion over a five-year period. H.R. 7535 proposed direct grants of \$400 million a year for four years, a total of \$1.6 billion. Both plans required matching at the state or local levels.

Both bills would have made grants on an objective formula. The Senate measure would utilize factors of relative per capita income and school-age population. The House formula was based on school-age population only.

Both of the bills proposed authorization of \$750 million over specified periods to buy local school district bonds unmarketable at reasonable interest rates. They also each provided for a program of federal credit advances to help finance reserves for bonds issued by state school financing agencies. The measures are compatible, and the differences could easily have been resolved.

The need is recognized. It appears that Congress and the American people agree that the need should be met. Measures to meet it were placed into the legislative hopper.

Why did the paperweight remain so long on the Kelley bill in the House Rules Committee? Why the furor—and failure when brought to a House vote? There are few, by this time, who do not know the answers to these questions.

Congressman Adam Clayton Powell, Jr. (D., N.Y.), encouraged by the National Association for the Advancement of Colored People, had announced that he would offer on the floor of the House an amendment which was turned down by the House Committee on Education and Labor as the bill passed through that Committee. The proposed Powell amendment would have made it impossible to grant any of the funds which would become available as a result of the passage of the bill to states or school districts which have not yet racially integrated their schools.

This amendment had the support of some Republican leaders in the House. With its adoption, defeat of Congressman Kelley's bill was imminent and has destroyed the hope of federal aid of any kind for some time to come.

Southern Congressman who ordinarily would support federal aid for school construction could

not have voted for the bill with this amendment in it.

Most of those who have spoken in favor of federal aid to school construction strongly opposed the Powell amendment. President Eisenhower said, "I believe our people should have a right to decide upon the issue by itself, and not be clouding it with amendments that are extraneous."

Adlai Stevenson has expressed the hope that "what is good for all will not be lost to all by any linking together of the school aid and desegregation issues which would delay realization of our hopes and expectations on either, or both, of these vital fronts."

The National Education Association "opposes such amendment to bills for federal school construction assistance" on the ground that the decree of the U.S. Supreme Court is a judicial action and not a legislative one, and that the Supreme Court has powers to enforce its decrees.

House Speaker Sam Rayburn has told NEA President J. Lester Buford, and other NEA officials that he is in favor of federal school construction aid.

Desegregation complicated approval

There was, of course, a possibility that an amended bill could be passed over the combined vote of those who oppose the amendment and those who oppose federal aid. "But," Walter Lippman observed, "even if the bill (with the Powell rider) could have passed over their opposition, it would complicate and obstruct rather than assist and promote the movement to end segregation in the schools."

Herald Tribune columnist Roscoe Drummond offered, prophetically, the rather gloomy conclusion that this impasse "could end up with no aid to desegregation and no aid to the schools."

Congressman Powell's tactics to assure passage of his amendment included a letter to Congressional colleagues in which he called attention to an alleged plan of the House leadership to ask for an unrecorded vote on his amendment.

"The leadership has indicated to certain friends of mine in the press," the letter stated, "that they are going to defeat the Powell amendment by keeping off the floor those members who would be in favor of it, and on a teller vote which, of course, would not be recorded, the amendment then would be defeated." This is a parliamentary maneuver not infrequently used, but the Congressman's letter announced that it would be countered in a rather unusual manner.

"Word," he went on, "has now reached me that a group of 25 persons thoroughly acquainted with the House and its members have dedicated themselves to sit in the galleries and to remember the names of all those who do not appear on the floor and vote when the Powell amendment comes up. They are also making arrangements to meet immediately after the teller vote to pool their findings and release to the wire services the names of all those individuals who were not on the floor and who did not vote." This threat was not received with enthusiasm by some of the Congressman's colleagues, although it aroused other types of emotion.

Throughout the voting, teller, voice, roll-call, the Powell amendment was the only rider to stay in the bill through its ultimate defeat.

The House Rules Committee was in favor of the federal school construction aid legislation—without the rider. With the bill cleared for floor action, the situation reached dramatic proportions. All that was needed to furnish the excitement of a movie Western were pistols.

School Building Costs and Bond Prices

by HAROLD F. CLARK

Economic Analyst

Teachers College, Columbia University

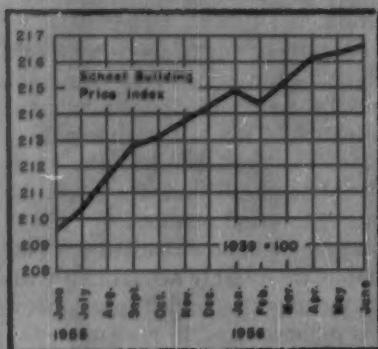
THE INDEX OF school building costs rose during the month of June. The index in June was 216.7 (1930=100). In May the index was 216.3.

Many persons are asking why school building prices continue to advance. There seems to be a

fairly widespread belief that there has been a dip in business and that school building prices should drop. Prices have not dropped and show no sign of doing so. The reasons are not difficult to find.

There has been no overall decline in the volume of building. Although residential building has declined, perhaps as much as \$1 billion, industrial and commercial building has expanded, as has public construction. These fields have grown by about \$3 billion. Total building is proceeding at

an even higher level than the previous record set last year. School construction is proceeding at an all time record. This record volume of building tends to raise prices.



The index of school building prices continued its rise — to 216.7 in June—

Many building materials are advancing in price. The wage settlement in the steel industry is almost certain to bring further rises in the cost of steel and ultimately in building prices. It looks as though an increase in wages in the steel industry will be an annual affair for a good many years.

Wages in the building trades continue their long upward trend. The advance stays within the usual one quarter to one half percent per month.

SOME MONTHS AGO the Federal Reserve Board decided to raise interest rates in an effort to slow down the business boom. The Board has recently decided that the danger of speculative excesses no longer exists on a major scale. In recent weeks the Board has made some slight moves toward easing credit.

Here, we have almost a classic example of the workings of credit control by the Central Bank. School bond interest rates rose immediately in response to the Federal Reserve Bank's earlier action. Average school bond interest rates had been about 2.3 or 2.4 percent. In a few weeks the average interest rate on school bonds shot up to over 3 percent and stayed there until there was some easing of Central Bank policy.

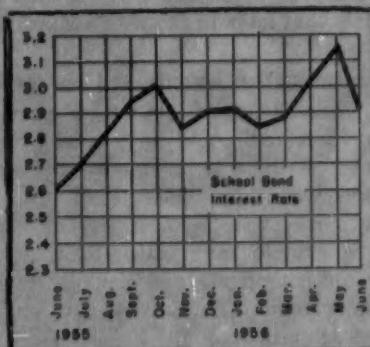
One week school bond interest rates rose above 3.2 percent. Many school bonds were sold above 4 percent. That rate has been rare in recent years. In fact, it has been unusual during the past 25 years.

In recent years it has been customary to say that interest rates are controlled by the Federal Reserve Board. School bond interest rates during the past few months have furnished a perfect example of this. What are interest rates likely to do during the next few weeks? The answer lies in the actions of the Federal Reserve Board. Recent informed opinion seems to be that the basic decision will depend upon business conditions. If business stays about as it is, there probably will be some further slight easing of interest rates.

The purpose of easing interest rates originally was to lessen speculative activities. An effort was being made to hold business activity near a level that could be maintained over a long period of time. Interest rates were raised to a level that would postpone some business activity until a later date.

Under these circumstances, it was inevitable that some school bond issues would be postponed.

but, with the drop to 2.91 in school bond interest rates, more construction should get underway.



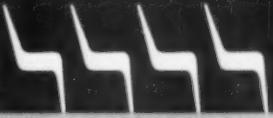
There were a good many school bond bids that were rejected because the bids were too high. If a school board had made its plans on the basis of an interest rate of 2.4 and it got a bid of 2.9, it is easy to see why the bid might be rejected. In fact, the plans for the entire project might have to be reconsidered.

All of this was going on during a period when prices of building materials and labor were also rising. It is no wonder that a good many bids were rejected not only on bonds but also on building costs. Not only were interest rates much higher than anticipated, but the cost of building was also higher. The reverse situation may be true during the next few weeks and a good many bids may come in lower than expected.

Next Month: Why School Lunches Are Necessary—Elizabeth Lamson.

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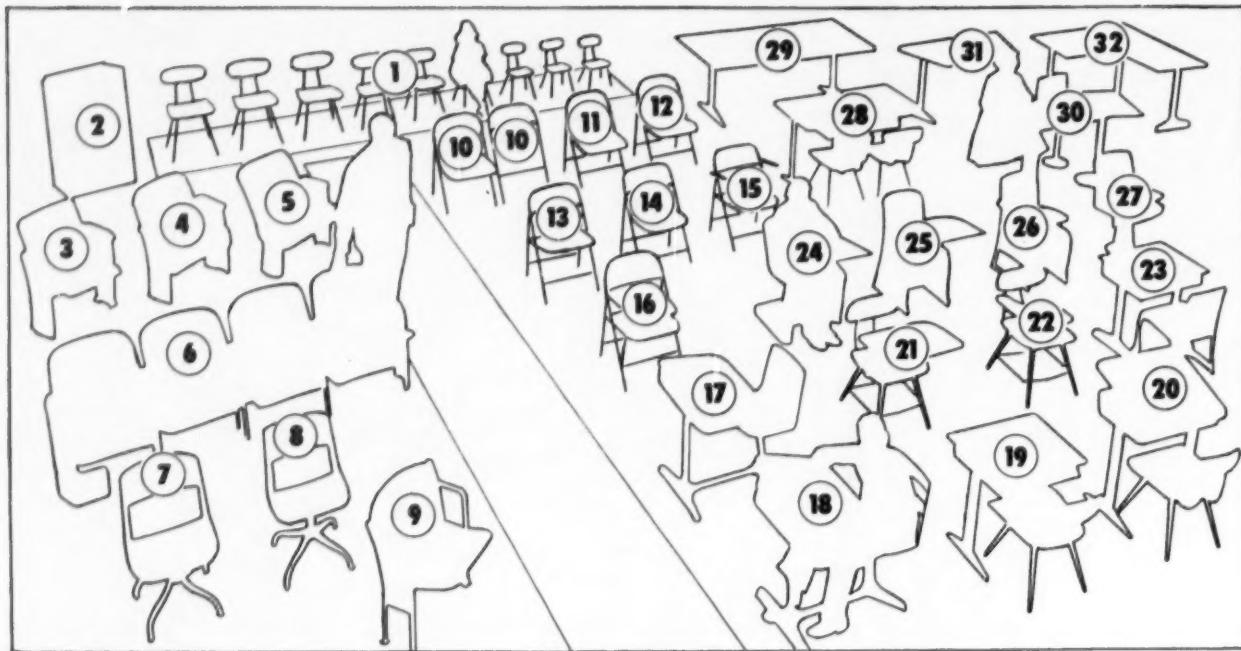
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4192	Cover to fit.	3.75
4307½	7½ Gal. Stock Pot.	17.00
4193	Cover to fit.	3.95
4310	10 Gal. Stock Pot.	18.85
4194	Cover to fit.	4.25
4311½	1½ Qt. Sauce Pan.	2.95
4311½ C	Cover to fit.	1.10
4312½	2½ Qt. Sauce Pan.	3.00
4312½ C	Cover to fit.	1.40
4313½	3½ Qt. Sauce Pan.	4.10
4313½ C	Cover to fit.	1.90
4316½	4½ Qt. Sauce Pan.	4.75
4316½ C	Cover to fit.	1.00

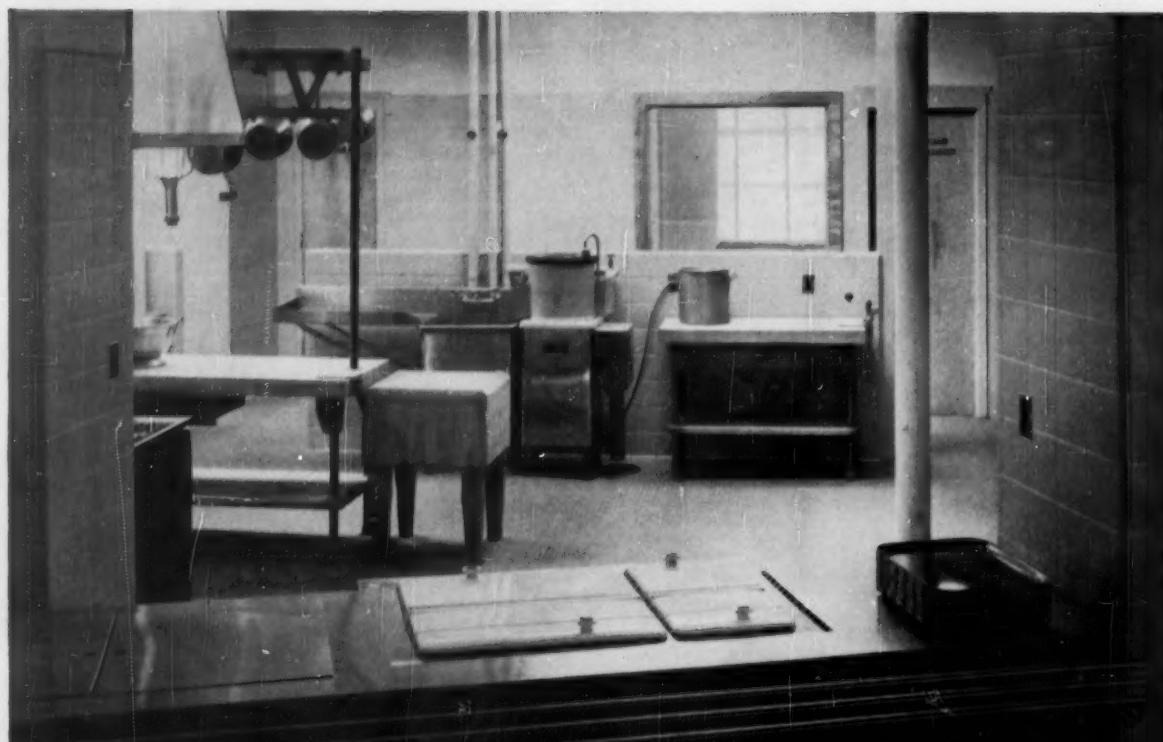
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4345½ C	Cover to fit.	1.95
4347	7 Qt. Stock Pan.	6.35
4347½	Cover to fit.	2.15
4348½	8 Qt. Stock Pan.	6.50
4348½ C	Cover to fit.	2.25
4350	10 Qt. Stock Pan.	7.95
4350½	Cover to fit.	2.85
4611	11 Qt. Colander	9.85
4616	16 Qt. Colander	11.75

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ROAST & BAKE PAN SPECIALS		
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4188	20 Qt. Stock Pot.	29.50
4193	Cover to fit.	2.85
4194	26 Qt. Stock Pot.	34.50
4194	Cover to fit.	4.25
4422	"Twin Oven" Bake Pan, 2½" deep	\$ 5.95
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4438	Bake for 4432, 4433	10.95
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4483	Std. Roast Pan, 16" x 22" x 4½"	19.95
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Ferrell Linoleum & Tile Co., Inc., Tile Contractors.

KITCHEN—Floor: Granitex Pattern 1832
Wall: 6" x 6" glazed wall tile

MOSAIC

Ceramic Tile

**In Princess Anne High School,
Princess Anne County, Virginia**

In many areas throughout our best-planned school buildings, Mosaic Ceramic Tile floors and walls are permanent, colorful assets. Corridors, lobbies, classrooms, laboratories, gymnasiums, toiletrooms . . . all are good investments of building funds when surfaced with one of the many types of Mosaic Ceramic Tile.

*The only complete ceramic tile line . . .
MOSAIC . . . from America's largest
ceramic tile manufacturer*

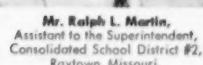


THE MOSAIC TILE COMPANY
General Offices: Zanesville, Ohio
Member: The Tile Council of America and
The Producers' Council, Inc.

*Factories, Showrooms and Warehouses
from Coast to Coast*



CAFETERIA—Walls: 6" x 6" glazed wall tile



Mr. Ralph L. Martin,
Assistant to the Superintendent,
Consolidated School District #2,
Raytown, Missouri.

**"We've been using
Fords in our fleet for 10 years.**

**Dependable B-700. Carries 66 passengers.
Wheelbase 245 in. Max. GVW: 21,000 lbs.**

And now we're buying six more"

says Mr. Ralph L. Martin

**Ford meets these
N.E.A.
Safety Standards**

- **Power-type brakes** shall be part of equipment for chassis designed for 48 passengers or more.
- **Brake vacuum reservoir** shall be at least 1000-cu. in. capacity for vacuum-actuated systems.
- **Front bumper** must be of sufficient strength to permit pushing vehicle of equal gross weight without permanent distortion.
- **Drive shaft** shall be protected by metal guard to prevent it from whipping through floor or dropping to ground if broken.
- **Fuel tank** shall have minimum capacity of 30 gallons and be made of 16-gauge terneplate or equivalent.
- **Flexible gasoline**- and oil-proof connections shall be provided at engine end of fuel line.
- **Rear springs** shall be of the progressive type.
- **Stationary eyes** of front springs shall be protected by wrapper leaf in addition to main leaf.
- **All tires** shall be of same size and ply rating.

**Ford surpasses these
N.E.A.
Safety Standards**

- **Front axle** shall have gross weight rating equal to or exceeding load supported by front axle.
- **Rear axle** shall be full-floating type and have a gross weight rating equal to or exceeding load supported by rear axle.
- **4-wheel brakes** adequate to control fully loaded bus shall be provided.
- **Brakes** shall be able to stop vehicle within 22 feet when driven at 20 m.p.h. over dry level road.
- **Grade ability** must be such that bus can climb 3% grade at least 20 m.p.h. (fully loaded).
- **Double-action** shock absorbers of adequate size shall be provided at front.
- **Springs** must have ample resiliency to sustain fully loaded bus without evidence of overload.
- **Steering gear** shall be designed to provide safe and accurate performance when vehicle is operated with maximum load and at maximum speed.

**"We carry over 5,000 children and
cover 230 miles a day. Yet gas and oil
costs average only 3.5 cents a mile."**

"We chose Ford because their standards in safety, reliability, and comfort meet or exceed N.E.A. Safety Standards," says Mr. Martin. "And for our specifications Ford's prices were lower than other makes."

For your operation you need the best. Ford pays off—costs less to buy, less to run. And Fords last longer (certified by independent insurance actuaries).

For '56, Ford offers you 5 new superior Short Stroke engines—from a 133-h.p. Six to the powerful 185-h.p. V-8.

Ford chassis are built to accommodate a complete range of bus body sizes—from 36-passenger or less, all the way up to high-capacity 66-passenger bodies.

See your Ford Dealer today, or write for details to: Ford Division of Ford Motor Company, P. O. Box B-3, Dearborn, Mich.

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TRUCKS THAN ANY OTHER MAKE**



**At Mooseheart
they
CUT THE COST OF COMFORT
with
Johnson
DUAL
Control**



Planners of the impressive new school* at Mooseheart made certain of comfort—and the economies of comfort—by providing a modern system of Johnson *Dual* Temperature Control.

Students here get the benefits of the finest in individual room temperature regulation. With a Johnson *Dual* Thermostat on the wall of each room, temperatures can be matched to the needs of each activity. Both heat and ventilation requirements are automatically satisfied at all times.

Precision control of direct radiation, unit ventilators and central heating and ventilating equipment eliminates overheating and reduces fuel costs substantially. In addition, with Johnson *Dual* Control, only the rooms which are in use need be heated to full comfort levels. Unoccupied rooms can be maintained at reduced, economy temperatures. The distinctive features of Johnson *Dual* Control provide the ideal comfort-economy combination, especially in those busy schools with "after-hours" heating problems.

Johnson-engineered Control Systems have helped cut the cost of comfort in tens of thousands of buildings, of all types and sizes. Take advantage of this unmatched experience when you build or modernize. An engineer from a nearby Johnson branch will gladly give you his recommendations without obligation. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

*Malcolm Giles Memorial High School, Mooseheart, Ill. L. Cosby Bernard & Co., architects, Hammond, Ind.; Arnold Lies Co., general contractor, Aurora, Ill.

JOHNSON  **CONTROL**
SINCE 1885

PLANNING • MANUFACTURING • INSTALLING

THE SCHOOL EXECUTIVE

COMPARE THE PACK AT HEINZ EXPENSE!

see which fruits
and vegetables
give fresher flavor—
more portions—less liquid—
better color!

HEINZ

**FRUITS AND
VEGETABLES**

Apricot Halves • Fruit Cocktail • Grapefruit Segments • Bartlett Pear Halves • Cling Peach Halves • Cling Peach Slices • Sliced Apples • Apple Sauce • Freestone Elberta Peach Slices • Fancy Hawaiian Pineapple Tidbits • Fancy Hawaiian Sliced Pineapple • Whole Blue Lake Green Beans • Cut Blue Lake Green Beans • Sliced Carrots • Diced Carrots • Whole Kernel Corn • Cream Style Corn • Lima Beans • Sweet Peas • Whole Beets • Sliced Beets • Whole Tomatoes • Spinach

YOU KNOW IT'S GOOD BECAUSE IT'S HEINZ

August, 1956



We would like to send you, free and without obligation, one #10 (large) tin of any Heinz fruit or vegetable, so you can taste and compare it against any other brand. Taste and inspect them both. See for yourself which brand gives you solid pack and more appetite appeal. Test your choice of any of the 24 Heinz fruits and vegetables listed below. Fill in and mail the coupon—see why your best buy in fruits and vegetables is Heinz!

#10 TIN OF ANY HEINZ FRUIT OR VEGETABLE FREE

H. J. Heinz Company, Hotel and Restaurant Division, Box 28-D7, Pittsburgh 30, Pa.
Send me FREE one Heinz #10 tin to compare with other brands.

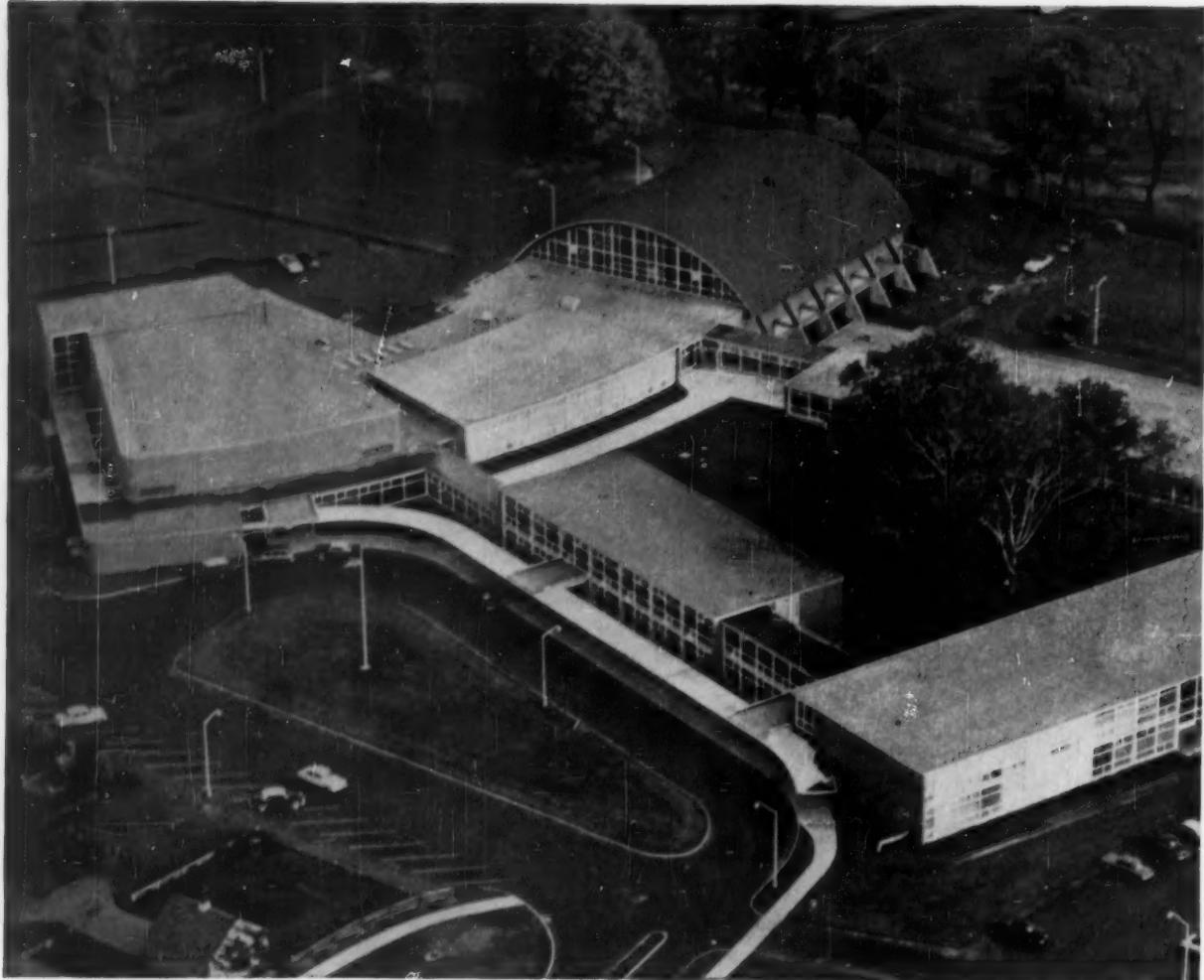
I want to test _____ (which fruit or vegetable)

Name _____ Position _____

School _____

Street _____

City _____ Zone _____ State _____



Pittsburgh Glass lets the light in ... and the beauty, too!

In this dramatic new high school at East Hartford, Conn., just about every room boasts a huge, glass window-wall. The daylighting is superb, and so is the view—two important considerations if you want fresh, alert minds.

The cluster-plan buildings are connected with *glass-enclosed* walkways that are bright and cheerful, while offering complete protection against the elements. But look at the gymnasium to see what a

miracle material glass really is. The gym is glazed with large panels of Herculite® shock-resisting plate glass to dispel the gloom. And, since Herculite is heat treated and tempered, it is incredibly strong—a useful property in athletic areas!

All in all, 50,000 square feet of Pittsburgh Glass were used here. Countless visitors feel that the glass deserves great credit for the daylighting, the view, and the graceful beauty of this new school.



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



Auditorium is at left, then, (clockwise) the gym, shops, classrooms and office building.

Architects: Nichols & Butterfield, West Hartford, Conn., and Perkins & Will, White Plains, N. Y.



Academic wing at left, shops to right. Venerable beech trees were carefully preserved during construction.



Entrance to gym, showing Herculite Glass. Unit at upper left houses ventilating system.

CONSULT YOUR ARCHITECT

—for information about the use
of these famous Pittsburgh Glasses
in school construction:

SOLEX®

—heat-absorbing and glare-reducing plate glass

HERCULITE®

—shock-resisting tempered plate glass

TWINDOW®

—the world's finest insulating window

POLISHED PLATE GLASS

—for clear, undistorted vision

PENNVERNON® WINDOW GLASS

—window glass at its best

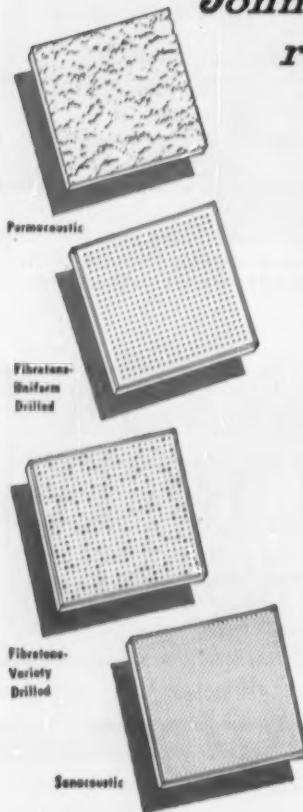
Design your schools better with
**PITTSBURGH
GLASS**

**Quiet
is a
modern
necessity**

Handsome Johns-Manville Fibretonce Ceiling Units provide a quiet atmosphere for teaching and learning throughout the new Marblehead, Mass., Junior High School. Architect: Kilham, Hopkins, Greeley and Brodie, Boston.



Johns-Manville acoustical materials bring relaxing Quiet for easier learning



Schools and institutions of all types depend on modern materials to achieve maximum efficiency. That's why practically all new building and modernization specifications include acoustical ceilings to reduce disturbing noise.

Johns-Manville offers a complete choice of highly efficient sound absorbing materials for every acoustical need.

- **J-M Permacoustic® Units**—combine maximum acoustical efficiency with architectural beauty. Has attractive fissured surface. Made of mineral wool, Permacoustic meets all building code fire-safety requirements.

- **J-M Fibretonce® Units**—provide high acoustical efficiency at modest cost. Hundreds of small holes, drilled in a Uniform or Variety pattern, act as "noise

traps." Fibretonce has a white paint finish. Available with flame-resistant finish.

- **J-M Sanacoustic® Units**—perforated metal panels backed with a fireproof, highly sound-absorbent element. Noncombustible and sanitary. The white baked-enamel finish is easy to keep clean, and may be repainted.

- **J-M Transite® Acoustical Panels**—perforated asbestos-cement facings backed with a mineral wool sound absorbing element. Suitable in areas with high humidity (dishwashing rooms, kitchens, swimming pools, etc.).

For a complete survey by a J-M Acoustical Engineer, or for a free book entitled "Sound Control," write Johns-Manville, Box 158, Dept. SE, New York 16, N. Y. In Canada, write 565 Lakeshore Road East, Port Credit, Ontario.



See "MEET THE PRESS" on NBC-TV, sponsored alternate Sundays by Johns-Manville

Johns-Manville

45 years of leadership in the manufacture of acoustical materials

Now...

*the Erickson portable
operates by itself
at the touch of a latch!*

All patents
applied for

AUTOMATIC HYDRAULIC ACTION!

The custodian's dream! Just unlatch table... this new specially-engineered hydraulic cylinder controls unfolding automatically. One man can set up an entire lunchroom in minutes... no wasted effort.



Here are just a few of the bonus features you get with the '56 Erickson... automatic hydraulic action... tough, colorful plastic benches and tops... rugged steel understructure... extreme portability... minimum storage.

GENTLY! QUIETLY! QUICKLY!

Only the '56 Erickson portable gives you automatic hydraulic action... and at no extra cost! Just unlatch it... the new Erickson portable operates gently! quietly! quickly! by itself... as if by magic!

Wheel it anywhere... unlatch it... within 2 seconds you have seating-for-eating for 24 students. You can rapidly convert any available area... such as gym, multi-purpose room or corridor... into a comfortable, orderly, colorful lunchroom... with an absolute minimum of time and labor.

Erickson PORTABLE FOLD-A-WAY PRODUCTS

August, 1956

We'd like to show you!



Midway 5-6463

Gentlemen:

We'd like a free demonstration of the new Erickson portable with automatic hydraulic action.

Send—complete information on the new Erickson portable.

NAME TITLE

SCHOOL

ADDRESS

CITY STATE

This fine Nebraska school gets
More classroom comfort per



Firsts in classroom comfort by Herman Nelson!

- the first practical, high efficiency HOT WATER heating element for unit ventilators.
- DRAFT|STOP, the first unit ventilator to eliminate window downdrafts—without increasing heat load.
- LIGHT|STOP, the first accessory to adapt the unit ventilator to audio visual classrooms.

AND NOW—

- **HerNel-Cool** first AIR CONDITIONING UNIT designed, built and priced specifically for schools.

Senior High School, Grand Island, Nebraska. Superintendent of Education: Dr. Earle Wiltse; Architect: F. N. McNett Company; Engineer: R. L. Fickes; Mechanical Contractors: J. L. Lingeman Company. The design resembles a human hand, with the administrative areas concentrated in the "palm" and classrooms extending down the four fingers.

BETTER AIR IS OUR BUSINESS



Illinois Steam Heating Specialties



Herman Nelson Console Heaters



HerNel-Cool Air Conditioner for schools

dollar with DRAFT|STOP!*

Controls drafts without added heat load

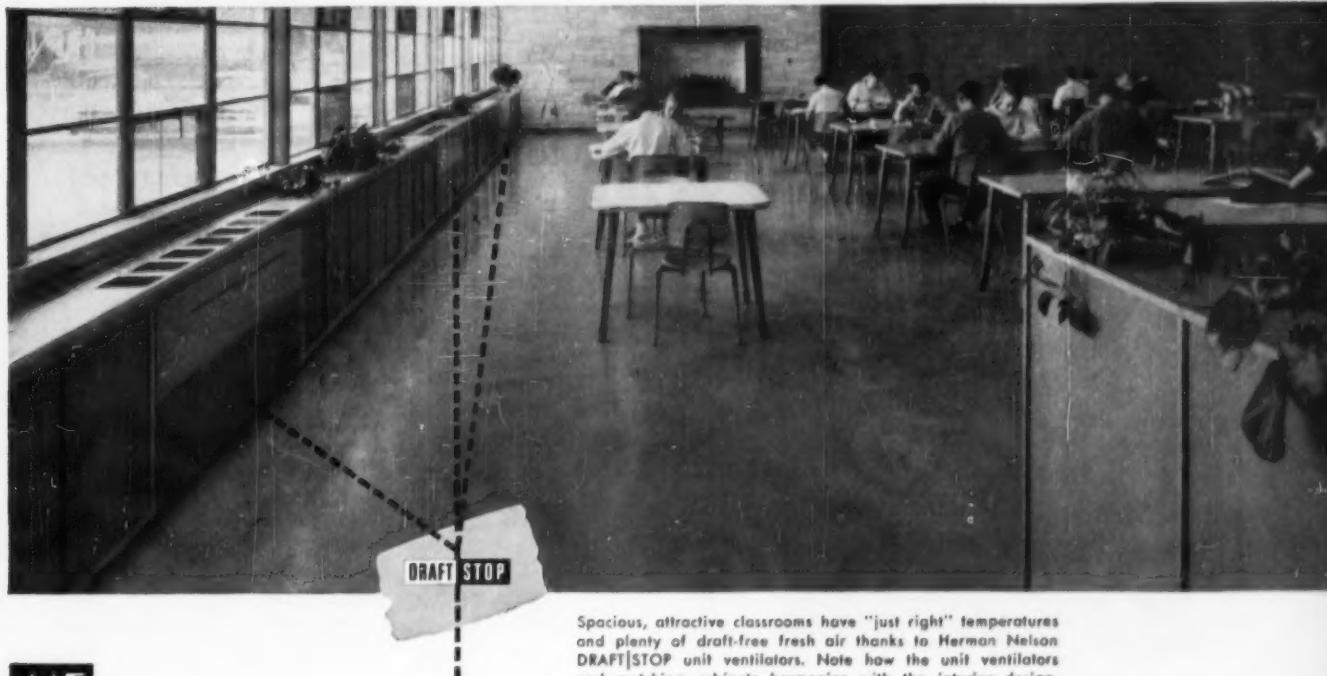
The new Senior High School at Grand Island, Nebraska is recognized as an architectural and engineering "jewel". The finest, most modern equipment combines with excellent planning to create the last word in educational facilities.

It was natural that DRAFT|STOP was selected for the all-important job of cooling, heating and ventilating the classrooms. DRAFT|STOP heats only when heat is necessary . . . saves fuel when it is not. It controls downdrafts without added heat load. Its unique design provides a constant supply of properly heated or cool fresh air . . . automatically

compensating for temperature changes. Pupils are alert and comfortable from the opening of school to the closing bell. Teachers are free to concentrate on teaching—in a healthful atmosphere that is conducive to learning.

That's why there is an ever increasing demand for more classroom comfort per dollar . . . the DRAFT|STOP way! Want more facts? For a 16 page case study, write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Kentucky.

*Patented (there are no substitutes)



Spacious, attractive classrooms have "just right" temperatures and plenty of draft-free fresh air thanks to Herman Nelson DRAFT|STOP unit ventilators. Note how the unit ventilators and matching cabinets harmonize with the interior design.



herman nelson

UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating



Herman Nelson
Heating, Ventilating Units



Herman Nelson
Unit Blowers



Herman Nelson
Horizontal Unit Heaters



AAF Dust Control
For School Shops



Herman Nelson
Vertical Unit Heaters

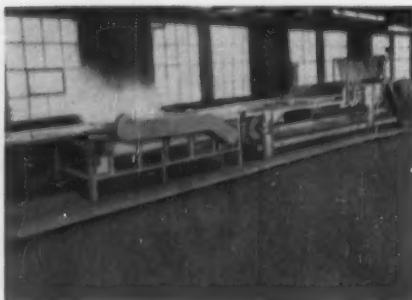
AMERICAN AIR FILTER COMPANY, INC.

**It takes more than a bucket of paint
to produce a good**

CLASSROOM CHALKBOARD



Applying the Rowles Chalkboard writing surface to the base stock.



Preliminary rubbing and lapping of the writing surface.



Final processing step completing the famous Rowles Velvetone Writing Surface.

50 years of know-how plus \$200,000 of production equipment makes the big difference at ROWLES



The simplicity of a product—as in the case of Classroom Chalkboards—is often misleading!

Producing a chalkboard that will give satisfactory service throughout the years calls for much more than the simple possession of a bucket of paint and a supply of base stock.

Rowles has an investment of over \$200,000.00 in specialized production equipment designed expressly to produce the finest type of classroom chalkboard.

To this, add Rowles half century of technical experience in manufacturing chalkboards for the classrooms of the nation—and you'll easily understand and appreciate that there must be a difference . . . a big difference in classroom chalkboards.

Why take a chance on an unknown? Instead, specify a Rowles Chalkboard for assured protection and satisfaction throughout the years. Remember, every Rowles Chalkboard is fully and unconditionally guaranteed for 10 years.

You'll find five quality chalkboards to select from—ENDURAROC, DURABEST, PERMASITE, SUPER PERMASITE AND DUROPLATE—in See-GREEN or standard black.

See your local Rowles School Equipment Dealer for complete data on the full line of Rowles Classroom Chalkboards. He'll be glad to give you samples, prices and other helpful information. Call him today, or write direct to

**E. W. A. ROWLES COMPANY
ARLINGTON HEIGHTS, ILLINOIS**

Do-It-Yourself with **MANLEY FUND BUILDERS**



Let the Manley VistaPop Popcorn Machine and the REFRESHERETTE Snack Bar provide the necessary funds to buy:

- ★ Athletic Equipment
- ★ Band instruments
- ★ Uniforms
- ★ Record player
- ★ Or many other items your school needs and wants

HOW THIS WORKS FOR YOU

At football, baseball and basketball games, dances . . . any place where crowds gather there's always a desire to eat popcorn and hot dogs . . . to drink cold drinks.

At such time, a Manley VISTAPOP and REFRESHERETTE on the spot to fulfill these desires will do a "land office" business.

The profits you make from the sale of popcorn, hot dogs and soft drinks will supply the funds for many worthwhile needs, not provided for in the budget.

Easy To Operate in Minimum Space

- ★ Any student can learn to operate either piece of equipment in just 10 minutes!
- ★ The VISTAPOP POPCORN MACHINE takes only 9 square feet of floor space . . . the REFRESHERETTE only 14 square feet.

MANY OTHER SCHOOLS LIKE YOURS HAVE BUILT EXTRA FUNDS WITH MANLEY EQUIPMENT. Your school can benefit, too. FILL OUT THIS COUPON. We'll be glad to send you more information.

• • • • • **MANLEY, INC., Dept. SE-856**

1920 Wyandotte, Kansas City, Missouri

- Please send me additional information on the Manley VISTAPOP.
- Please send me additional information on the Manley REFRESHERETTE.
- Please have a representative call on me to explain how these Manley Fund Builders will work in our school. I understand that I will be under absolutely no obligation.

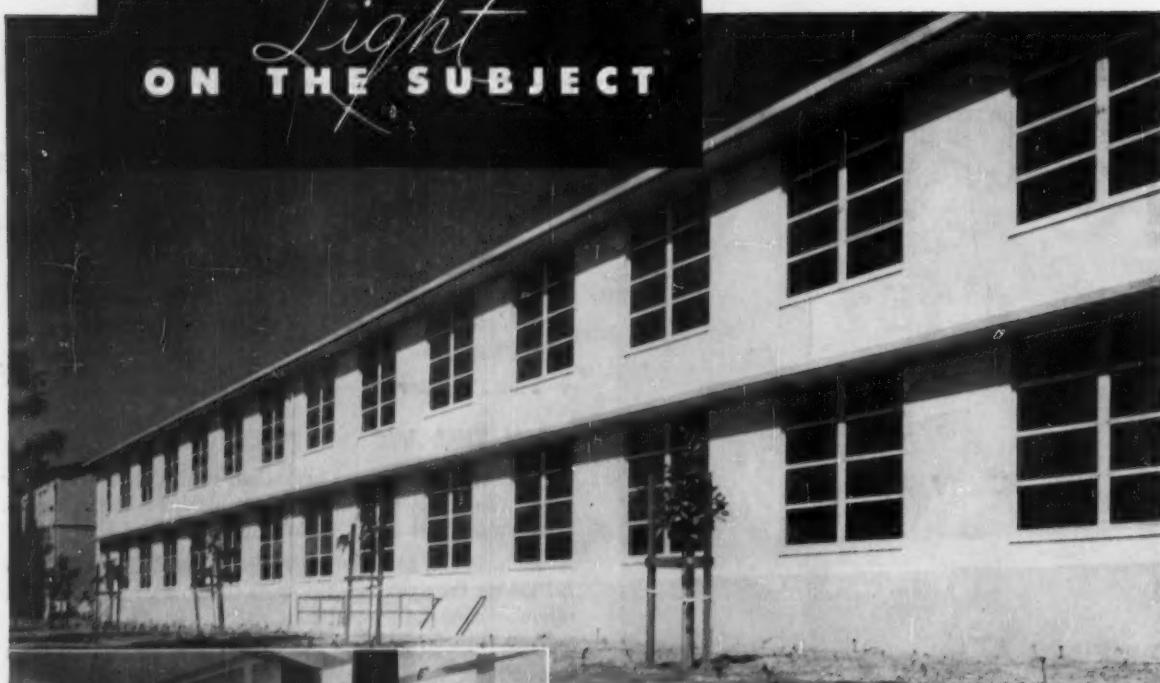
Name _____

Title _____

School _____

City _____ Zone _____ State _____

**COOLITE PUTS
MORE and BETTER
Light
ON THE SUBJECT**



Fullerton Junior College, Fullerton, California



Translucent, light diffusing glass by Mississippi is available in a wide variety of patterns and surface finishes to solve any daylighting problem within any school building budget. Specify Mississippi Glass.



Write today for free catalog, "Better Daylighting for Schools". Address Dept. 16.



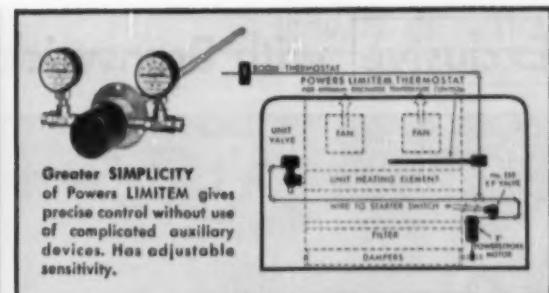
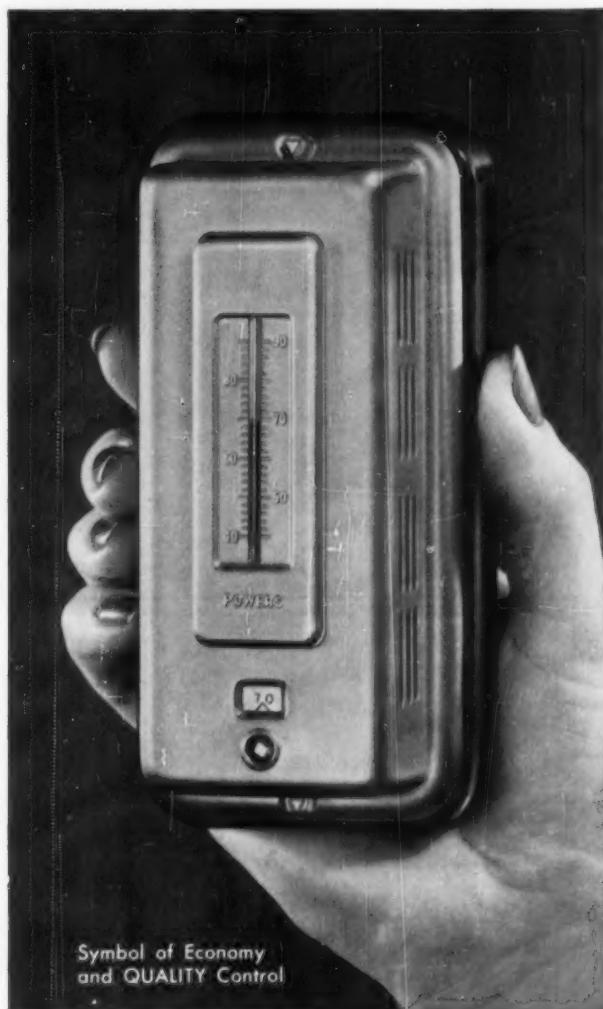
Fullerton Junior College Brightens Classrooms with Comfortable, Glare-Free Daylighting

Studying is a pleasure under "Cooliting" . . . that floods rooms with conditioned, natural light. Architect William H. Harrison used this versatile, Heat Absorbing, Glare Reducing glass extensively in this outstanding Science Hall to keep illumination levels high and unwanted solar heat at a minimum. Specifying $\frac{1}{8}$ inch Hammered Coolite in the upper three lights, he achieved an interesting exterior treatment that provides the finest in daylighting for each area. The Coolite diffuses softened, glare-free, natural light deep into interiors, makes seeing tasks easier, creates a pleasant atmosphere.

Reading, study, other visual tasks, are easier under comfortable "Cooliting". Students see better, work better, feel better in classrooms kept cool and bright with Coolite. When you build or remodel your school structures, specify Coolite, the glass that's "visioneered" for better daylighting.

**MISSISSIPPI
GLASS COMPANY**
88 Angelica St. • St. Louis 7, Mo.
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



POWERS

Control Eliminates OVER-heated Classrooms and Cuts the Cost of Comfort with Greater Economy

Lowest Maintenance and Repair Cost and 15 to 40 years of dependable control are often reported by users

The superior year after year performance of Powers QUALITY control has been time tested and proved in thousands of schools and colleges since 1891.

When you have a temperature control problem for a new school or an existing building, check it over with an experienced Powers engineer.

His suggestions may be helpful in cutting the cost of thermal comfort.

Selecting the right type of control pays big dividends in greater comfort, fuel economy and more efficient operation of heating and ventilating equipment. To make sure you get the best for your school specify and install Powers.

For further information contact our nearest office.

THE POWERS REGULATOR COMPANY

SKOKIE, ILLINOIS

Offices in Chief Cities in U.S.A., Canada and Mexico
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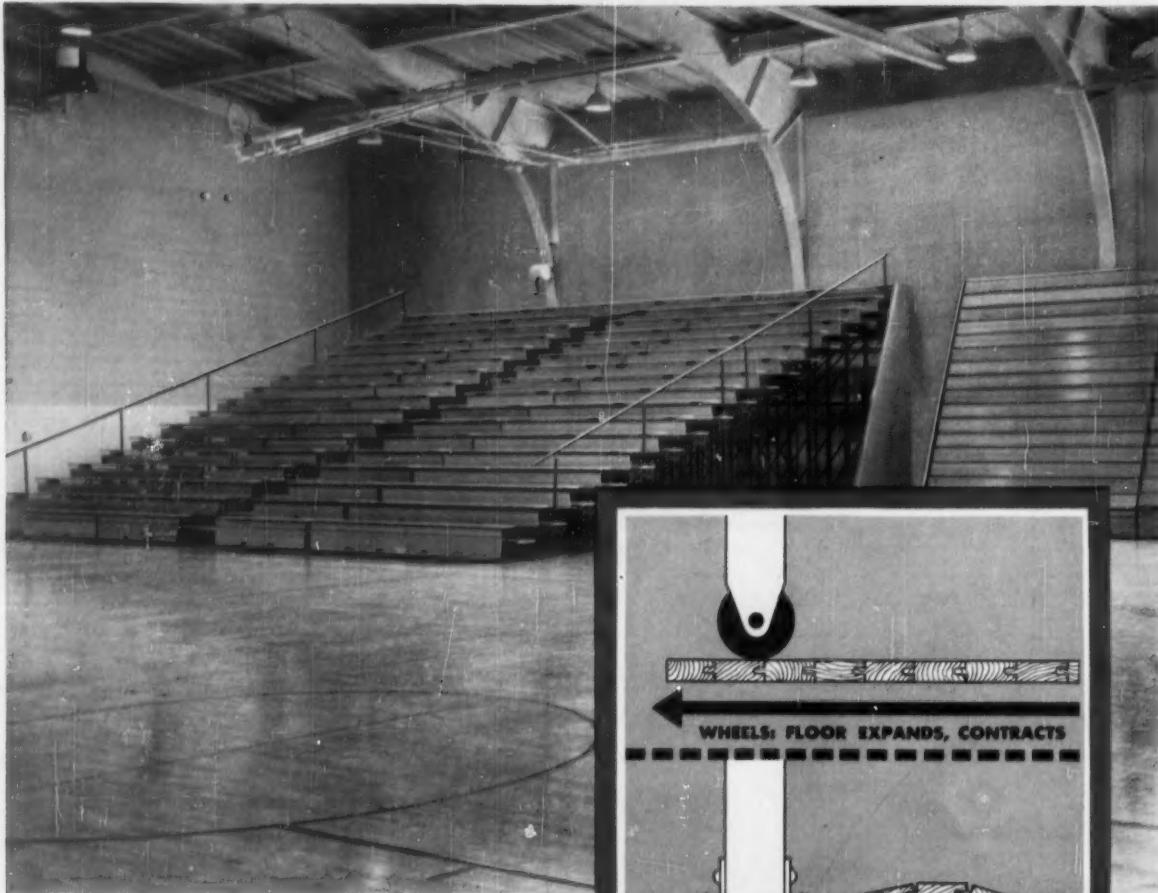
65 Years of Automatic Temperature and Humidity Control

August, 1956



(c72)

Exclusive with Brunswick-Horn Folding Gym Seating



Wheel-mounted supports

eliminate buckling of gym floors

Looking for the difference in folding gym seating? Here's an important exclusive feature you will find only in the Brunswick-Horn design.

All tubular column supports are fitted with wheels to permit the gymnasium floor to move freely as it expands and contracts with changes in temperature and humidity. With Brunswick-Horn you will find no floor plates or anchors fitted to or through the floor to

restrict this free movement and cause buckling. Result: Floors require only normal maintenance, games can always be played as scheduled.

Wheel-mounted supports are just one of the Brunswick-Horn exclusives! Your nearby representative will be glad to give you full details on all of them, including rail type boards, automatic mechanical row locking and others which make Brunswick-Horn your best buy.

See SWEET'S **22J**
Ho

THE BRUNSWICK-BALKE-COLLENDER COMPANY
Horn Division • Marion, Virginia

Brunswick **Horn**

THE PRESENT Virginia State Constitution became effective in 1902 and has been amended only once, in 1928. On January 9 of this year, Virginians voted 300,242 to 143,636 in favor of a Constitutional Convention to amend Section 141 of their Constitution. The relevant provision of this Section now reads: "No appropriations of public funds shall be made to any school or institution of learning not owned or exclusively controlled by the state or some political subdivision thereof."

There is little doubt that this portion of the Constitution will be duly amended to permit the use of state funds to pay tuition of certain students attending private, non-sectarian—and segregated—schools.

The referendum vote was a result of three considerations:

Gray Commission Recommendations. The Gray Commission was appointed by Governor Thomas B. Stanley in August, 1954 and instructed to "examine the effect of the decision of the Supreme Court of the United States in the school segregation cases of May 17, 1954, and make such recommendations as may be deemed proper."

Stanley added that he would "use every legal means . . . to continue segregated schools." The recommendations of the Commission were made public sixteen months later—in November, 1955. One recommendation of the long-awaited report was for tuition payments to "provide tuition grants from public funds for private schooling of children where either (a) no public schools are operated, or (b) parents choose not to send children to integrated schools." (Half of Virginia's counties had declared no schools would be

operated if segregation were ended.)

The payments recommended would be the amount per pupil which the local district spent on public education and purportedly would enable recipient students to attend private, non-sectarian schools (although few such facilities are now available). The state average per-pupil expenditure last year was \$183, and ranged from \$108 in Buchanan County to \$341 in Arlington. Such payments for private school tuition would be admittedly inadequate in most cases.

State Funds Ruling, Virginia Supreme Court of Appeals. This decision of November 7, 1955 invalidated the program of tuition payments to an estimated 125 persons, including some disabled and handicapped entitled to receive student aid, and 66 Negro college students who have been attending out-of-state schools for programs not offered in state institutions open to them. These tuition payments were found to conflict with Section 141 of the State Constitution, said the Virginia Court.

Time factor in amending Constitution. An alternative available method for amending the State Constitution would require at least two years, necessitating a delay which the Federal courts might be expected to consider unsatisfactory, in view of the "all deliberate speed" provision of the Supreme Court decision.

The significance of the vote on the referendum to amend the Constitution has been interpreted in various ways.

Governor Stanley stated that "the results will be most helpful to all who are concerned with safeguarding our public schools and at the

Two Virginia educators suggest:

How to Resolve the Integration Dilemma

by DOUGLAS S. WARD
and B. J. CHANDLER

Drs. Ward and Chandler, respectively acting dean and associate professor of the School of Education, University of Virginia, are the authors of the plan they describe here to preserve Virginia's public school system. The opening of the fall semester will find Dr. Ward at Miami University, Oxford, Ohio, as dean of the School of Education, and Dr. Chandler at Northwestern University as associate professor of education.

Plan for Preservation of Virginia's Public School System

... and applicable to other states which must integrate "with all deliberate speed"

Establishment by the General Assembly of a State Advisory Council on Public Education¹

It is recognized that the Gray Commission was an *ad hoc* body. It has dealt with the segregation problem on an emergency basis. It now seems appropriate and necessary for a council to be constituted on a long-range, continuing basis. The council should be organized so that it is broadly representative, and should include people who are intimately acquainted with problems resulting from the Supreme Court decision. It is suggested that the council be organized in the following manner:

Appointment:

By the Governor, from nominations made by a committee consisting of the presidents of the state-supported higher institutions. This committee should consider recommendations from the various groups which are to be represented, as named in the following paragraph.

Membership:

Four representatives of the General Assembly
Two State Department of Education representatives
One representative from the Virginia School Boards Association
One division superintendent of schools
One representative from the Virginia Education Association
One representative from the Virginia Teachers Association
One representative from the Parent-Teachers Association-White
One representative from the Parent-Teachers Association-Negro
Two representatives of the general public

Function:

1. To encourage community leaders advisory groups to work out operating plans for schools to meet problems arising out of the Supreme Court ruling and to submit these plans as recommendations to local school boards.
2. To advise community groups and serve as an information clearing house for plans as they are developed.
3. To assemble plans put into operation in school divisions and transmit these to the appropriate official designated by the Federal Courts, as evidence of good faith in compliance with the "all deliberate speed" edict.

¹ The State Advisory Council should organize itself into working committees to deal with phases of the problems confronting it. Undoubtedly, a small staff, including legal counsel, would be necessary. In the event the work of the State Council extends over a period of years (perhaps five or more) some provision for limiting the terms of members and for maintaining membership would be necessary.

Establishment of a Community Leaders Advisory Group in Each School Division²

Appointment:

By the mayor, or the chairman of the board of supervisors, upon recommendations from the groups to be represented, as named in the following paragraph.

Membership:

Two city council or board of supervisors members
Two school board members
Four parent-teacher association members, including Negro representation
Two general public representatives
Two school administrators and/or teachers

Functions:

1. Carefully assess local public sentiment regarding school segregation.
2. Work out procedures that public opinion is judged likely to accept.
3. Secure agreement of leadership of both races concerning the exact extent, school by school, of segregation or non-segregation proposed.³
4. Present recommended plans to the division school board.
5. Inform the State Advisory Council on Public Education of plans and local developments.
6. Continue to meet as long as need exists for adjustment or development of plans.⁴

Statutory Authority of Local School Boards to Assign Individual Pupils to Schools

If a satisfactory plan is not developed in a school division utilizing the procedures described above, or if plans developed locally and placed in operation prove unsatisfactory, the local school board would be legally empowered to:

Authorize and supervise the assignment of individual pupils by professional school personnel in accordance with clearly defined criteria related to: sex, intelligence, academic achievement and place of residence (districting).

It is assumed that all Community Leaders Advisory Groups would continue to meet and to persist in efforts to develop plans consistent with the four fundamental principles upon which this entire plan is based.

² It may be advisable for Community Advisory Groups to hold their initial meetings as executive sessions. Meetings open to the public and press may be advisable later as local conditions warrant, and at the discretion of the local group.

³ As of a given date, non-segregation might be announced for: (a) all schools of a school division, (b) one or more schools, (c) certain grades in all schools, or (d) certain grades in one or more schools. The number of Negro pupils eligible to attend a particular school as of a certain date might be recommended.

⁴ Probably no change in present school attendance practices (related to race) would occur for some time in certain school divisions.

same time protecting our children against enforced mixing of the races in the classroom."

State Senator Gray, chairman of the Gray Commission, in a telephone conversation reported in the press the day following the vote, said: "I guess we have won the Civil War." He also expressed his "deepest gratitude and appreciation for this evidence" of popular confidence "in Virginia's leaders who are striving so earnestly to solve the grave problem which confronts us." (He clearly refers to the Gray Commission and the support political leaders gave its Report.)

The General Assembly passed a resolution of interposition which some of its backers hope may result in assembling a national constitutional convention to deal with school segregation through an amendment, which would require the approval of 36 states. Thirty-two states must pass similar legislative resolutions to force the calling of a constitutional convention. If such a convention resulted in a proposed amendment empowering Congress to deal with school segregation, its ratification by 36 states is considered unlikely.

Interposition strategy is apparently to discredit the Supreme Court decision and create a climate of national opinion in which non-compliance would be possible.

What did ballots say?

The present writers maintain, however, that none of the above interpretations of the referendum balloting is valid. The complexity of the issues involved precludes an exact determination of what the voters intended their ballots to say. Only what they voted for is known.

The sizable vote (over one-third) against the proposed convention to change the State Constitution reflected unexpected opposition to the state's dominant political organization which worked extremely hard to produce a favorable vote. Members of the Governor's staff, for example, were granted leaves to work at "pro-amendment" headquarters which were opened in Richmond, and for which funds were raised

from private sources to carry on extensive newspaper, radio and speaking campaigns in the weeks before the referendum vote. Three ex-governors, the two U.S. Senators and numerous other public officials and political leaders made public appeals for a vote favorable to calling a constitutional convention.

Superintendents say "no"

Public educators in the state appeared to have been caught in an awkward situation. The state superintendent of public instruction was active in rallying support of school officials and others for the proposed convention, and most of the state's superintendents of schools *publicly* supported the amendment proposal. However, a study made by the University of Virginia School of Education, prior to the announcement of the Gray Commission Report, showed that the majority of superintendents in the state were privately opposed to changing the State Constitution: 115 superintendents were mailed questionnaires, to be returned unsigned, which asked, "Are you in favor of changing the Constitution of Virginia to permit the use of public funds to pay tuition for students attending parochial or private schools?"; 13 responded "yes," 16 responded "yes, private only," and 64 responded "no"—the noes constituting 67 percent of the returns.

In the absence of a clear meaning of the intent of the voters, it is the writers' belief that the vote may be interpreted as giving the legislature freedom to remove one of the roadblocks in the path of orderly handling of the school segregation problem — a constitutional limitation which prevented the use of the tuition grant recommendation of the Gray Commission. Removing this roadblock, they must have figured, would provide the time which is needed to enable locally acceptable plans for gradual abandonment of legal segregation to be put into operation.

Any plan for the preservation of Virginia's public schools, in the face of the U.S. Supreme Court decision making compulsory segrega-

tion of the races in school unconstitutional, must rest upon four fundamental principles. A satisfactory plan must:

1. Be consistent with the Court's requirement of "deliberate speed" in abolishing compulsory segregation, though the rate of speed might vary from community to community.

2. Employ the basic processes of democracy—respect for majority decisions, use of experts, search of solutions through fact-finding and problem-solving methods; furthermore, the people who stand to be affected by the plan should participate actively in its formulation.

3. Respect local traditions, beliefs and customs; these cannot be abruptly changed by judicial fiat.

4. Assure the continued operation of the public schools in every county and city in the state, and be economical and attainable with the state's financial resources.

The three-part plan which is outlined here is consistent with these fundamental principles. It has sufficient flexibility to permit local autonomy in the operation of schools. Because it is statewide and yet permits local solutions of the problem, it is believed that this plan would meet the Court's requirement of "all deliberate speed" if carried out in good faith. It is also assumed that the present school staffs in each school division would be maintained.

The interest that has been expressed in this proposed plan by a large number of organizations and civic leaders indicates that procedures of this type may well be considered not only in Virginia but in other southern states. "All deliberate speed" cannot be interpreted to permit indefinite delays in the development of plans to end compulsory segregation in schools, even though it may take some localities several years to implement their plans.

This proposed plan, the authors believe, would permit procedures to be worked out locally during the period necessary for public sentiment to adjust to this new reality in American, as well as Southern, life.



Experiences in the life of an intern: he watches the construction of a new school, observes a classroom in session,

Interning in Administration —an Appraisal

Results of a CPEA study show how the internship works, its value to the profession—and its weaknesses to date

by CLIFFORD P. HOOKER

THE PRACTICE of internship in educational administration — like its older sister, teacher-training — is a logical step in helping prepare the future superintendent or principal for his job.

Not all schools of education provide this experience for their student administrators, by any means, but the practice is developing increasingly. The usual sponsoring agency for the program is a local school system where the intern works with seasoned professionals under the guidance of his training institution.

How has the internship practice affected the interns, the sponsoring field agencies and the cooperating universities? What administrative

practices of field agencies have proven most satisfactory? These and other questions have motivated co-ordinators of interns in the Middle Atlantic Region of the CPEA to appraise the internship in educational administration.

The intern coordinators at the eight universities in the Middle Atlantic Region which have experimented with internships (Buffalo, Pittsburgh, Duke, New York, Syracuse, Pennsylvania State, Maryland and Columbia Teachers College) participated in the study group. The deliberations of this group were supplemented by the work of six advanced graduate students who accepted the responsibility for basic research on the problem.

The writer was selected to direct the activities of the study group and to coordinate the research of the graduate students. Limited to the five-year period of the CPEA, as sponsored by the W. K. Kellogg Foundation, the research group involved 140 interns and 120 sponsoring administrators during that period.

Dr. Hooker is assistant to the dean of the School of Education at the University of Pittsburgh and is a project associate with the CPEA Middle Atlantic Region. He directed the research project reported here.

The major findings which can be established as conclusions regarding the interns themselves are:

Acceptance of the internship practice in educational administration lies in the success post-interns have had in securing administrative positions. Over half of the post-interns had been classroom teachers prior to their internship; almost half of these went on to other positions outside of the classroom after the internship. Only a third of all interns returned to the classroom immediately following their internship.

Serving an internship was an investment in time and endeavor that produced financial dividends for post-interns. Before interning, only about one third of them received more than \$4500 annually, whereas approximately two thirds of them received at least this salary immediately following this experience. The median salary increase exceeded \$1000.

There is some evidence that participation in the internship program has been influenced unduly by expected improvements in the candidate's financial situation. Advanced



becomes orientated to the school district that is his sponsoring field agency, and confers with its superintendent.

graduate students in the higher pay brackets have been reluctant to enter the internship program. This program should consider and develop the individual's competency rather than his financial status.

Financing an internship is one of the major problems. Interns' salaries ideally should be paid by the sponsoring agency, since this leads toward better supervision of the program by the sponsor. In addition, this practice is most often associated with the delegation of real administrative authority and responsibility to the intern.

An internship of less than one year (full time) does not permit interns to have experiences in many areas of administration. Since authority and responsibility are rarely delegated to new members, short internships seldom approach real administrative experience. This drawback is clear when one considers that the typical intern has completed over 60 hours of graduate work and has had ten years of teaching experience, and that over one third of his experience can be classified as "old."

Internships in educational administration should involve full-time daily activity for at least one academic year. The opportunities that help develop competence in assuming administrative responsibilities occur at no particularly scheduled time. Only when an intern is exposed to these activities will the internship fulfill its goal. In a calendar year there is an optimum selection of experiences for interns. This length of time should be considered seriously

by universities, field agencies and interns.

Sponsors benefit, too

The sponsoring field agency also stands to benefit from the internship; some of the most frequently mentioned contributions follow:

Sponsoring administrators reported that interns have provided many valuable services, such as preparing administrative bulletins, orienting new staff members and evaluating current practices. Fifty percent of the interns assisted administrators in selecting staff members and developing salary schedules. Since many interns were placed in districts not engaged in new building construction, approximately only 50 percent of the interns were given any experience in this area. However, in those districts where school buildings were under construction, interns assisted administrators in many ways. For example, they developed spot maps of the pupil population, projected bus routes and completed enrollment predictions.

Administering the community school involves far more than merely informing the citizens about the schools. Active lay participation in educational planning creates better schools and better citizens. It appears that post-interns have not been given adequate experience in this area. Every possible means to introduce the intern to the community should be employed. Attendance at a wide variety of community meetings as well as participation in lay

committees studying school problems not only introduces the intern to the community, but initiates him to forces that mold a school system.

University programs vary

The cooperating universities have presented the following as several of the factors which have been noted about the internship practice:

The course of study in the educational administration departments at the universities has not been altered so that integration of the internship with the academic program may take place. In fact, the internship has been added as a course in the area of educational administration at all of the universities, and one university has added a course to supplement the internship! Internship seminars meet regularly at four of the universities.

Since only half of the eight universities make financial provisions for the staff time devoted to the program, one can conclude that the universities have not completely accepted the internship as an important phase in the preparation of the educational leader; those staff members promoting the internship are convinced of the value of the program and are dedicating themselves to it along with their teaching load. If the internship is to be effective, staff provisions must be made for the organization, administration and supervision of the program. Supervision of fifteen to twenty interns by the program's coordinator should be considered a full-time assignment.

The university staff responsible

for supervising the internship program has visited school systems and other educational institutions, and these visits have contributed to the professional growth of the staff members by bringing them into contact with the everyday problems of school administration. It is this contact which provides the reality necessary for well-rounded classroom instruction at the university.

Need better selection plans

A study of the administrative practices of field agencies also revealed highly valuable information:

The heart of any internship is placement. Unless school boards and school administrators are willing to sponsor interns, the universities are

helpless in their efforts to maintain a program. School administrators, practical as they are, are not convinced thoroughly that interns can earn their pay.

Improved selection procedures and longer internships should help correct this condition. Furthermore, administrators will have to be made aware that an assistant can relieve them of many details that have contributed to their excessive load.

There is some evidence that the sponsoring agency's quality of leadership is not the major criterion in the selection of a sponsoring field agency. The willingness of the sponsoring administrator to accept an intern seems to be the basis for selection in some cases.

Wide acceptance of the internship has been hampered by the "promotion from within" policy of many excellent schools that would make fine laboratories for neophyte administrators. In some cases the administrators of these schools feel that sponsoring an outside intern would damage staff morale. The same argument is used against sponsoring an intern from their own staff who has been identified by the university as a candidate for the internship.

Cooperative selection of interns, with administrators taking the primary responsibility for recognizing men of leadership potential on their own staff, offers the greatest promise for expansion of the internship in educational administration.

An Orchid Letter

to the new principal

Dear Miss Jones:

After the School Board hired you, I inquired about what you might be like as our principal. I wasn't worried about your training and experience in working with teachers and pupils—that's not my business to know—but I was anxious about how you would regard the custodian. I wondered if you would sort of think he was only another ignorant, and sometimes stubborn, "problem child" like some of the pupils in the school, or if you might consider him as your special assistant in charge of part of the school program about which you knew very little. The superintendent told me a lot about you, but the thing that I liked best was that you grew up on the farm when most farmers still had horses and that you already had a record of working well with other grownups in

school. I left the superintendent's office satisfied that you would have some plain "horse sense" about my work and how we could work together for a good school.

You see, the principal before you had the idea that I should be at her beck and call whenever and wherever she decided—this was her way with everyone in the school and we were all mostly unhappy. I guess even the principal was unhappy and that's why she left us. At least she surely must have disliked the way that unhappy people "balked" at her orders for jobs to be done. I hope she changes her way of working with people on her new job, because I think she will never be happy until she tries to help other people be happy.

But you seemed to understand my job when you said at your staff meeting—remember, you invited me to come, and it was the first time I ever had been asked to join the teachers and the principal in talking over problems that weren't mine alone; and I had the chance to be among you in my dress-up clothes and without a broom in one hand

and a dust cloth in the other—that I was your "assistant in charge" of operation and maintenance of the school plant. The teachers liked it, too, when you said they would be your "assistants in charge" of instruction. Then you went on to say we were going to be a team pulling together on the load of moving a whole school full of pupils ahead one year in learning and that you were not the "driver" of the team but that you wanted to be the "lead horse," with some of us "wheel horses" taking turns pulling beside you so that we might see the direction you were taking the rest of us. Then, you went right ahead to practice what you preached, and we've all been happier and had a good school ever since you came. I hope you stay a long time as our "lead horse" on this load. It helps make the load easier for the rest of us and I know one thing, we'll try to make it easier for you, too.

Sincerely yours,
John Brown
Your Asst. in Charge of
Operations and Maintenance

This "letter" was read at a recent district custodians' meeting in Grand Island, Nebraska, by Wayne P. Marshall, curriculum coordinator and research director for the Grand Island schools.



Your Public's Great Expectations

The public entrusts you with a precious product and expects a lot in return. Check your public, and your performance, against this report

by RUSSELL T. GREGG

JUST WHAT DOES the public expect of the superintendent of schools? This question is a difficult one to answer.

It might be argued that, in any sizable community, there are many different publics which may have different, even conflicting, expectations of its superintendent. These smaller publics may, however, be considered segments of the overall public to be served by the superintendent of schools, and he must be ready to meet whatever situations arise bearing the interests of all groups as his responsibility.

Few studies have been made of this problem. The Harvard University school executive study is the most extensive. A preliminary report of one phase of this study provided the factual basis for an article that appeared two years ago in the *Saturday Evening Post*, entitled "Pity the Poor School Superintendent." Emphasis was largely upon the pressures and conflicts which face school superintendents.

It was this article which caused

Dean L. D. Haskew of the University of Texas to ask, in the January, 1955 issue of *THE SCHOOL EXECUTIVE*, "Is the picture of the superintendent as a complaining, self-pitying man with a disagreeable job an accurate one, or should the picture include some more noble and statesmanlike qualities?"

To find some clues that might provide the answer to this question, the author requested several superintendents of schools to write a letter reporting what they considered to be some of the public's major expectations of them as superintendents. Twenty-one replies were received. Their analysis indicates that the public's demands on these superintendents may be grouped into eleven categories.

These are listed, together with a number of specifics that were reported in each category. (The number following each of the eleven items represents the percentage of superintendents who reported that type of public expectation.)

1. The superintendent of schools should provide educational leadership for the continuous improvement of the educational program. (90%)

This means that he is expected: to

give leadership to the professional and non-professional staff; to establish good relationships with the board of education; to encourage citizen and staff participation in educational planning; to exhibit a professional zeal for the importance of public education in our democracy; to learn about modern developments in public education and to know what are considered the fundamentals of education; to emphasize long-range educational planning; to advise the board of education in establishing sound policies for the school system; to develop a good functional administrative organization; to promote in-service programs for school personnel; to stimulate educational thinking and experimentation; and to make periodic self-inventories for his own improvement.

2. The superintendent should be approachable, friendly and sympathetic. (90%)

He is therefore expected to: be known by many people as an individual and friend (not just as the superintendent); be easy to talk to; willing to listen; meet all types in a friendly and courteous manner and treat everyone alike; show a sympathetic interest in other people's problems; solve problems in a congenial

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atmosphere; and accept criticism gracefully.

3. The public expects the superintendent to inform the people about the schools. (76%)

This means that the superintendent must: know the school system, its history and the individual schools which are a part of it; understand present policies and procedures and the reasons for them; be willing to speak to a great variety of community groups (and frequently on short notice); have the ability to speak intelligently and concisely and with enthusiasm and a sense of humor; furnish information about the schools to the newspapers and other communication agencies; and be able to explain objectively the problems of the schools.

4. The superintendent is expected to take an active part in community affairs. (76%)

This means that the superintendent should: share extensively in all community undertakings; serve on a number of boards and committees; contribute both time and money to community drives and civic movements; take an active part in church affairs; know the community, its organizations, its people and their hopes and aspirations; promote harmonious community relationships; and be an exemplary citizen.

(One superintendent reported that he is expected to stick to his business of school administration and not become politically active in community problems that do not affect education.)

5. The superintendent is responsible for spending the educational tax dollar wisely. (70%)

This implies that the superintendent must: have sound business sense and understand the economic resources and tax structure of the community; plan the budget so that the citizens can be assured of the best possible educational program for the money expended; safeguard educational funds; and be able to save, as well as spend, the people's money.

One superintendent put it this way, "The public expects the superintendent to provide the best school

system in the country for the least amount of money."

6. It is the superintendent's responsibility to select and develop a competent school staff. (50%)

He must therefore: be a good judge of people; make good initial selections of teachers and other school personnel; develop cooperative relationships among the school staff; operate the schools without too many unusual incidents; and promote increasing competency on the part of the staff.

7. The public expects the superintendent to place the welfare of children above all other considerations. (43%)

This means he should: know as many as possible of the children who attend the schools; make sure that all children get fair treatment from teachers and principals; have interest in all the children, no matter what their problems or limitations; show a common interest with parents in their children's activities by attending school affairs involving pupils; and marshall the resources of the school to help prevent juvenile delinquency.

8. The public expects the superintendent to stand for what is right and good for the best interests of the schools. (43%)

This means that he must: stand for what is right even in the face of opposition; do what is best for children in the long run, even though he may be fired for it; stand up and be counted when educational issues demand it; give consideration to all manner of pressure groups; exercise good judgment and common sense; and accept proposals for contests and drives which are worthy of promotion.

9. The superintendent is expected to be frank, straightforward and honest about school problems. (38%)

This includes: furnishing correct information; presenting the facts honestly even though it hurts; avoiding bluffing or using figures carelessly; making available all the facts, whether good or bad; and being un-

emotional in dealing with school problems.

10. The superintendent is expected to be responsible for planning and maintaining a good school plant. (33%)

For example: knowing the characteristics of a good school building and a good site; serving as middleman for the board of education, the architect and contractor; giving leadership in planning functional school buildings; and seeing that school buildings and grounds are properly maintained.

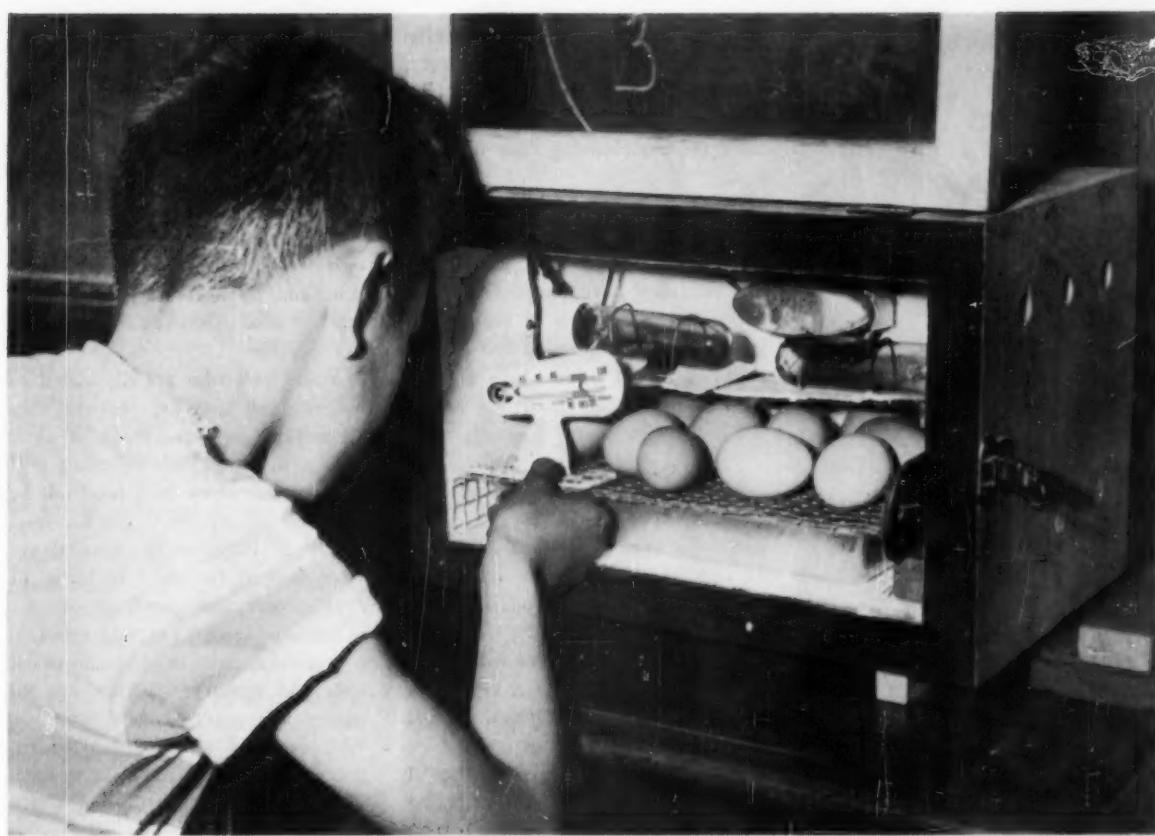
11. The public expects the superintendent to anticipate and evaluate problems which may face the schools in the future. (33%)

This means that he should: peer into the educational future; distinguish between small and big problems; put out little fires before they spread; differentiate problems which will solve themselves from those which will become worse; warn people in advance of impending problems; and solve urgent problems first.

Two other expectations of the public do not seem to fall into any of these eleven categories. One superintendent reported that the public expects him to maintain the dignity of the position by living in a good home. Another reported that he is expected to have married well, since most school systems employ not only the superintendent but also his family.

The writer feels that the evidence reported by this group of school superintendents does not indicate that they are "complaining, self-pitying men with disagreeable jobs." Certainly what the public expects of these superintendents of schools indicates that they have big jobs, but jobs with "noble and statesmanlike characteristics."

Knowing what the public expects of its superintendent will quite probably lead you to agree with one superintendent who wrote, "Being a superintendent of schools of course has its problems, but, in my opinion, it is the most challenging and stimulating job in the world."



Need: Scientists Look: In Elementary Schools

To alert teachers and administrators to future world needs in terms of resources and manpower, a chemistry professor urges that scientific habit patterns be developed early in students' careers

by GERRIT VAN ZYL

Dr. Van Zyl is head of the chemistry department at Hope College, Holland, Michigan.

August, 1956

THE TEACHER exerts the greatest motivating influence on the student. Working with ambitious young men and women with open minds is creative, enduring work. Somewhere along the road to college, a good teacher fans, in his pupils, the growing fires of interest and proficiency for a particular subject.

These are the reasons for a col-

lege science instructor's concern with the teaching of elementary and high school science. Besides owing a debt of gratitude to these people on the grade levels prior to ours, we on the college level could not exist without the public and parochial schools' support through their many fine science training programs.

Standing on the threshold of a



Individual student use of laboratory equipment and mechanical devices develops brain-hand coordination.



science-determined era and realizing its total effect upon elementary, secondary and college science curriculums of the future, we find the need for a measuring stick of progress.

Scientists generally like to express social and economic growth in terms of *energy requirements*. Using that criteria, they have adopted a huge, new unit of measure—a unit which is roughly equivalent to the energy supplied by 38 billion tons of coal or 180 billion barrels of oil—to determine future energy demands upon our civilization.

From the beginning of time until the year 1850 about six such units had been used by the entire world. In the following century four units were consumed. About one-fifth unit was used in 1955.

By the year 2000, the world will require a full unit a year, five times as much as we are using now. To get from this year 1956 to the 21st century, the world will need total energy resources equivalent to 2,000,000,000,000 barrels of oil.

Small wonder that a chemistry professor should be interested in the affairs and administration of public and parochial school science when we compute projections of needed manpower and recognize that every wage earner, by the year 2000, will in one way or another be dealing in a vocational area requiring a scientific and/or technical background.

Best of all possible . . .

If for no other reason than a selfish interest in the future of America's scientific and technological progress, I should reaffirm the thought that only teachers with the best possible background in science subject matter fields are *just good enough* for this generation and those to follow. And, of course, the most up-to-date, individualized curriculum is essential.

The demonstration method of science instruction cannot replace individual student laboratory experimentation. To those school administrators and boards of education who are allowing school plants to

be built without any laboratory facilities, I would point out that adequately equipped science spaces are not expensive. They are needed urgently as the pivotal point in our race between civilization and catastrophe.

If the habits of independent inquiry and investigation are to appear and be nurtured, the patterns must be established at the elementary grade levels.

Youngsters who are stimulated to observe and find out reasons have an advantage over others in their own age group. Science equipment on the elementary level need not be elaborate or expensive, but designed to try to interpret the natural environment of the child in terms of simple basic understandings.

Problem solving, experimentation, observation, field trips, audio-visual aids and group discussion are all parts of a good science program. Well-presented and participated in, they whet appetites for more science. These techniques are of real worth in founding the background for interest and enthusiasm to be developed further at the secondary school level.

Motivate curiosity

The high school science instructor's continued emphasis upon the scientific method reinforces habit patterns his students will need on the college level, in the professions and throughout life. If enthusiasm for further scientific work has been instilled at the grade school level, the students will *want* to know the why's.

During adolescence students have excess energy which they want to channel effectively. If laboratory sessions are made meaningful and enjoyable for them, if they have individual opportunities to *apply* their book-learning, aptitudes and talents are easily discovered—by the teacher and the pupil.

The teacher's knowledge—of his subject and his students—is still the best equipment in the laboratory. Individual student laboratory experimentation based upon a challenge equal to the course content,

developed by a skillful instructor utilizing the principles of the scientific method, will do more to stimulate interest in science than all of the speeches and papers on why students *should* be interested.

Demonstration should form an integral part of every science course—demonstrations to arouse interest, answer a student question and to teach a point. Yet, nowhere in modern science pedagogy should the demonstration methods be used as a substitute for young people doing their own work, thinking and finding out for themselves.

Stimulate independent lab work

Above all, we must always remember that we are dealing with individuals, with human beings whose backgrounds, both native and acquired, are all different. Their aptitudes, likes and dislikes vary as much. In science as in other vocational areas it is costly, sad and miserable to fit round pegs into square holes.

The laboratory is not a factory whose products are turned out by assembly line methods. No machine can stamp out qualities of leadership, imagination, ingenuity, enthusiasm or perseverance.

At the college level examinations and tests are used to determine the extent to which the student has mastered the subject matter; but class discussions should be pointed toward developing the inductive and deductive reasoning power of each student. Here, the enthusiasm of the instructor for his subject largely determines the students' interest.

If the student shows a lack of interest he should be encouraged to devise an experiment which appeals to him. Progress in science has been due in large measure to the inquisitive experimenter—the research worker. While a high school science department might not have the time or facilities for it, every undergraduate college should have some type of research program to motivate both teachers and students.

The example of the teacher working in his laboratory or delving into library literature incites his students

to action. Small individual or group projects may be started as early as the freshman college year.

Many times outstanding high school science students have shown their worth as laboratory assistants to busy secondary school instructors thereby easing a teaching load and at the same time accepting a challenge and becoming more familiar with equipment, chemicals and laboratory procedures.

The student must be alerted early to

the importance and opportunities offered by science. He then has an idea of a goal toward which he can grow if his interest is maintained. All opportunities can thus be recognized—be it as a high school lab assistant, through extra college experimental research or an invitation to co-author an article with his professor for one of the scientific journals. By opening these doors, we are on the way to molding the scientists of tomorrow.



If youngsters are taught to observe and try to understand natural phenomena at the "curious" stage in their growth, the habit pattern of seeking out answers for themselves has begun to be established. Kindergarteners at Lafayette School, Washington, D. C. are introduced to science via monthly work units which reflect the children's current science interests—the seasons, their neighborhoods, animals, plants, the sky and how their toys move.

He Who Throws Stones . . .

**Styled as commentary on a student's term paper
attacking public education, a classroom teacher vigorously refutes
the most disparaging criticism leveled at our schools**

My Dear Horace:

Your belated examination paper arrived and was, needless to say, quite shocking to the Board on Eligibility and Promotions. Although they have voted to give you a passing grade, I have been elected to refute your "Public Education Ain't What She Used to Be" and therefore bring another stray sheep back to the academic fold. To be perfectly frank with you, only my democratic spirit moves me personally to accept your paper for what it may be worth.

You realize, of course, dear Horace, that the area you have chosen, namely, that of criticizing public education in America, might be slightly more suitable for the Sunday Supplement of some newspaper where it would require little academic support to receive a high degree of readership.

It is a curious thing that most of us upon graduation or expulsion from some institution of learning at once emerge as persons who are significantly authoritative on all matters. We do not falter as we part with our words of wisdom on any and all subjects. At times we do encounter some opposition to our good intentions, but our spirits hardly dampened, we soon again forge ahead and disseminate pearls of learning to other less belligerent areas.

However, when it comes to telling

by DON R. McMAHILL
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the schools how to get their job done, I note that a touch of vengeance usually enters. Whether we are conscious of it or not, we want somehow to even the score with some teacher who may have kept us after school to memorize the multiplication tables. So, while we may at first set out in all honesty to evaluate our schools, we soon yield to that hidden desire to get even. We warm up as we go along and eventually become, just as you did, Horace, quite vigorous in our denunciations. We inject totally unsupportable phrases such as: "the youngsters can't spell," "they don't know the alphabet," "they can't do any arithmetic!" If you stop to think about it, you find that these things may be true of some of the children—just as it was true when you and I went to school. But for your present purpose, it mainly serves to put the teacher in his place, and besides, it looks good in print.

We skip the fact that schools today are accepting and keeping all youth—not just the good ones. We ignore the fact that a standardized spelling test given to a class in 1927 is no longer standardized because the student population which takes the test in 1956 is not "stacked." We refuse to admit that the contemporary open-door policy, that of accepting and keeping all youth, is a lot more democratic than the 1927 theory.

Horace, how naive can we get? When we ask our schools to spread out a bit more and offer an education to all children so that they may

be Americanized and made more productive and less destructive, we are bound to lose some of the old-time, undemocratic efficiency. In transferring so much responsibility from the home to the school, it is quite natural that the traditional spelling and arithmetic drills give way to vocational courses, driver training and the other essentials of present day living. A few years ago, keeping the best school-age children and letting the rest fend for themselves as best they could in an increasingly complex pattern of living proved to be a costly process and provided good reason for change. It may occur to you that reformatories and prisons are expensive to maintain, and do very little for their occupants other than hold them at bay for a few years. Surely, a Christian and democratic nation could do better than that! And they did. Today's schools all practice the "school-for-all" policy.

However, the credit side of this evaluation couldn't be as barren as you made it, Horace, had you pushed your thinking processes a bit farther. Our education system can't be so bad, for after all, who trained our secretaries who compose and type office letters and memos; our accountants and tax experts to whom we entrust our most important arithmetical problems; our printers, who are torn between deciding whether it was just poor handwriting, or the bitter revelation that it was merely a case of *our* not knowing that the "j" preceded the "e." Stop and think about this, won't you?

This brings us to the question of who bears the burden of educating all of our children—good or bad, intelligent or retarded, normal or maladjusted, rich or poor. Of course, Horace, it's "good, old Teach" (the soubriquet your endearing disrespect has bestowed upon her). Not only do they pump the 3 r's into American youth but teachers are also expected to carry on the traditional functions in service to their communities: they help churches and clubs; they keep on attending school conventions and summer school classes; they are asked to issue top-flight newspapers and yearbooks; to direct championship instrumental and

vocal groups; to sponsor first-rate plays, operas and oratorical contests; and to coach winning teams, or else. And for all their service to mankind and mankind's children, we pay them the lowest wage accorded any profession.

We do not give them the social status they merit. Instead we comment upon their seedy appearance, their rundown homes and their ancient cars. After all this, we wonder why more talented young people do not go into the teaching profession.

But to get back to the educational pattern you advocated, Horace—you know, teachers might support it! They might like to teach only those youngsters who have an I.Q. of over 100. They might be happy if the troublemakers could be bounced into the streets again. They might derive satisfaction from sending home those children whose mothers are so busy working somewhere else that they haven't the time to button up their kiddies before sending them off to school. But what is important is that they don't even suggest these things. In fact, you'll find lots of things going on in our schools these days, Horace. You'll see some of the children working on stage crews; others learning to mix cement for sidewalks; and still others helping with the actual school carpentry repairs. Most of them are that "troublemaker" group, the very ones who cause a strain on teacher patience and understanding. You admit you don't know what to do with them, so can you, in all righteousness, blame the schools for trying to find a decent answer?

Quite a number of our school boys right now are the most mixed-up lot you ever saw—for all your experiences as a school kid. They don't know where to turn since they are told that the governor of the state lies about his income tax; the state board of control cheats; the senator has sold out to the power trust; the army is run with communism. They'd like to have faith in someone. They'd like very much to work for someone at normal jobs, and lead normal, responsible lives. Instead, society, with great show

and pretense, thinks it does something for youth by erecting new detention homes.

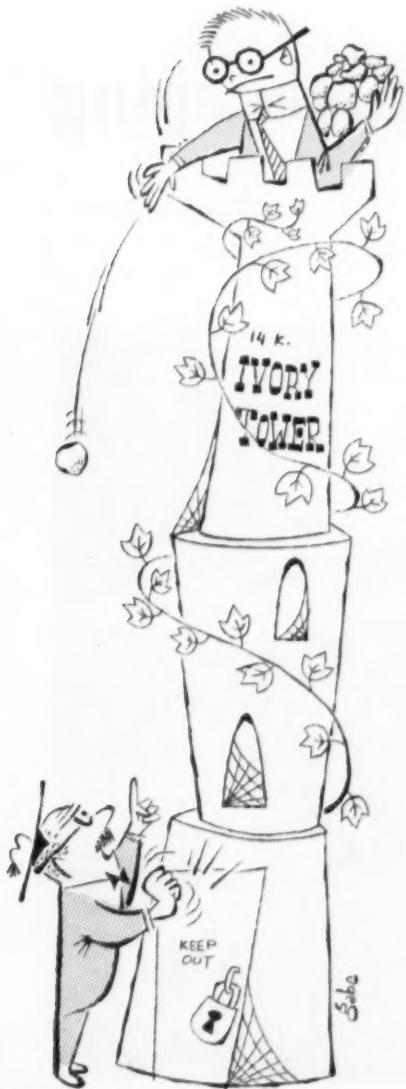
You aren't playing fair either, Horace, when you blame the schools for what happens. Some youngsters are bound to make headlines, and since newspapers exist by dwelling eternally upon abnormal behaviour, we must not adopt the philosophy that one bad apple speaks for the barrel. It would be excellent for you to get back to the common sense theme launched first in 1944 by the Chamber of Commerce of the United States, "Education—an Investment in People." The schools belong to all of us, and school problems are therefore *our* problems.

Horace, about your "revolutionary" suggestion regarding the building of more schoolhouses—this will not do the job before us any quicker than preaching about educational ills from the security of an ivory tower. There is no easy cure-all, and it takes courage and plenty of it, to march through the schoolhouse door and discuss the problems in an orderly fashion.

We can help by joining curriculum committees and learning the problems of reading, writing and arithmetic first hand in terms of today's needs. We can then recommend what can and should be taught in present emergencies and we can help get it done. We must strive to raise the living standards of all youths not just a few, and until that is done, we can continue to expect a barrage of criticism from outside the schoolhouse windows.

At the risk of seeming old-fashioned in view of your ultra-contemporary approach, may I ask you to put considerably more effort on research and logic the next time around. Quoting others of your class authorities as your primary sources really leaves me quite unmoved and unimpressed. However, should you in the future elect to continue criticism of public education, I suggest you explore fully the wisdom of, let us say, Confucius, not overlooking the Master Teacher who walked and taught by the Sea of Galilee.

Very cordially,
YOUR PROFESSOR





Tampa Tribune photo



Landscaping

The 32-acre site of Twin Lakes school has an aquarium in the shape of the state of Florida (it measures 40 feet from Pensacola to Key West). Several class groups are busy planting shrubs and border for the pool.



Hedges of Surinam cherries are not only colorful but also furnish delightful recess refreshment for the children.

A sixth-grader proudly displays a tropical passiflora (native to South America).



This is the front view of Principal Mitchell's Twin Lakes school. No high steel fence here, but an exciting invitation to natureland.

with a Flourish

by OMAR C. MITCHELL

Principal, Twin Lakes Elementary School
Tampa, Florida

PUPILS SPEND about a fourth of their time on their school grounds. A well-rounded educational program is therefore carried on outside the classrooms as well as within. Adequate playgrounds are, of course, "musts" but they should be closely seconded by sufficient ground for landscaping and other purposes that will enrich the child's educational experiences. To be truly functional, landscaping should never reach the stage of completion. It should be continuous; every day should be Arbor Day. The contribution of plants and their cultivation by the children will make them feel that they are stockholders of their school. Once a school begins a landscaping program, new ideas just bubble forth. In addition to standard playground equipment, there come ideas for an outdoor aquarium (perhaps made even more "educational" by being cast into the shape of the home state), sand pits, a wishing well, a sundial, fruit-bearing trees for the lunchroom, a birdbath made of rocks collected by the children on their vacations, a flowering hedge to replace the wire fence enclosure, a barbecue pit, a planting of trees to form a windbreak, a rock garden, a swimming pool—all of which would, in a sense, become the school's outdoor classroom, and one to be enjoyed as much by adults as by the children. Any school carrying out a long-range landscaping program will find that wildlife conservation will automatically creep in. Where there are ponds, there are likely to be mallard ducks; squirrels and birds will make their homes in the trees. And thus you soon have a wildlife laboratory right outside the classroom. The accompanying pictures illustrate our philosophy at Twin Lakes: that a school is a piece of ground with a roof over only part of it.



This barbecue pit is the favorite spot for youngsters' class parties and for community picnics.



A strawberry barrel and an ever-bearing lemon tree are appropriately located by the lunchroom.



Above: a second-grade class group moves outside. Learning is not confined at Twin Lakes; Principal Mitchell sees the 32-acre site as an outdoor classroom. Left: These first-graders enjoy watching a pair of mallard ducks that have made their home on another of the school's pools (this one in the shape of the home county.) Below left: This birdbath was made by a fourth-grade class from rocks they had collected over the country. Below: Fifth-graders made the wishing well from a concrete culvert pipe which they surrounded with flint rock from a local quarry. The top is rimmed with beautiful rock from the Colorado Rockies. Coins retrieved from it are used to buy feed for the school's wild-life program.



Tampa Tribune photo





Planting and caring for a pansy bed is the responsibility and pride of these pupils.



Sand pits enclosed with concrete blocks are enjoyed by the school's primary children.



Two third-graders enjoy some citrus fruit from the school orchard. The orange blossom is the state-adopted flower and provides a fragrant spot on campus in the springtime. This Twin Lakes school is the dream-come-true for Principal Mitchell who has spent 15 years building and furnishing this unique outdoor classroom. Near this orange tree stands a tribute to Mr. Mitchell which his pupils helped erect and which they presented to him on the occasion of his fiftieth birthday: a marble and bronze sundial.



Custodians get to use their green thumbs, too. Here they replace top sand with fertile soil for a sidewalk border.

a progress report on

California's Junior Colleges

by WALTER CROSBY ELLS

OVER THE PAST 50 years California has occupied the lead among the states in the development of junior college education. Although the state has, according to the last census, only 7 percent of the population of the United States, it has 12 percent of the accredited junior colleges and 52 percent of the enrollment in the country's 534 accredited junior colleges.

This remarkable headway for a single state has been brought about by constructive legislation and outstanding professional leadership in California. Most significant, however, is the fact that by law no tuition has ever been charged to California students attending any of the state's publicly controlled junior colleges—in contrast to the situation in most other states.

California has 61 accredited junior colleges with 60 publicly controlled and one privately controlled. (In addition, the *Junior College Directory 1955* lists five unaccredited private junior colleges in the state; however, this analysis is limited to the accredited institutions.)

The public institutions are all of the district type, the district usually coinciding with a city school system,

Dr. Eells, a professor emeritus, has served as executive secretary of the American Association of Junior Colleges and as editor of the *Junior College Journal*.

but sometimes consisting of two or more adjoining districts or of an entire county. All of the public junior colleges are coeducational. The single private institution, Menlo College, is for men only. In addition to the above, there are seventeen public evening junior colleges, with an enrollment of more than 60,000 students, organized in connection with day institutions. They will be included here with the day institutions with which they are associated. Seven of the public junior colleges, classified as separate institutions, are operated under the unified control of the Los Angeles Board of Education.

Total enrollment in regular sessions of the California junior colleges last year was 324,793, of which 201,095 (62 percent) were special students. In addition, 32 institutions reported summer sessions with 34,434 students, making a total enrollment of 359,227 that year.

Try 6-4-4 system

All except two of the junior colleges have the two-year form of organization. These two are four-year junior colleges which include the last two high school years. For more than a quarter of a century Pasadena City College (formerly Pasadena Junior College) has been the leading exponent of the 6-4-4 plan of organization, the junior college constituting the final four-year unit; and it converted half a dozen or more other California communities to this form of organization. In 1954, however, Pasadena abandoned the 6-4-4 system and the junior college reverted to its original two-year form. Only two California junior colleges now remain on the 6-4-4 plan and one of them, Stockton College, plans to return to the two-year form of organization in the fall of 1956, leaving Napa College as the only four-year junior college in the state.

The large number as well as the high proportion of special students is noteworthy. An outstanding development in California has been the increasing effort of the junior colleges to meet the varied educational needs of the communities in which they are located. Most of them have extensive programs of day and eve-

ning classes for adults. These classes are designed to meet both the occupational and the cultural needs of the community. For example, of the 39,915 students reported for the regular session of Long Beach City College, 60 percent were special students, chiefly adults in evening classes of many types.

The evening college programs in many California institutions have been growing rapidly although very few have yet approached the outstanding record of Long Beach City College which claims that one adult in five over eighteen years of age is enrolled each year in its adult courses.

The California junior colleges vary in size from San Benito Junior College, with only 30 students, to Long Beach City College with almost 40,000. More than two-thirds of them have enrollments of more than 1,000 students each; eighteen have more than 5,000 each; nine have more than 10,000 each. If the seven Los Angeles junior colleges are considered as a unit, their total enrollment in regular sessions last year was 67,610. Additional summer session enrollment of 16,048 brought the total Los Angeles junior college enrollment to 83,658 which is an outstanding record.

The largest of the Los Angeles group is Los Angeles City College with a regular session enrollment of 28,123 last year. Press reports in the fall of 1955 gave this institution more than 37,000 students. With a similar rate of growth in the other six units in Los Angeles, the total junior college enrollment this year for the city is well in excess of 100,000 students.

Wide choice of study

In the regular sessions a wide variety of curriculums is offered, not only pre-professional courses and others designed for later transfer to the university, but also courses planned to meet the needs of the thousands of students who expect to complete their formal education in the junior college. These include courses for general culture, occupational competency, personal efficiency and satisfaction, good citizenship

and civic improvement. Extensive counseling and guidance programs are characteristic of many of the junior colleges.

A wide variety of technical and semi-professional courses are given—a field in which Los Angeles City College (formerly Los Angeles Junior College) pioneered a quarter century ago. They have been developed in several institutions in close cooperation with advisory committees representing various industrial, commercial, labor and professional fields within the community. Pasadena City College offers more than 500 courses. Fullerton Junior College offers 475 courses in 150 fields of study. Several institutions use the cooperative plan in connection with local industries. Many conduct field trips for students in science, engineering, radio and other fields.

Last year 55 junior colleges in California had 1,613 students from 62 foreign countries. The largest number were in the City College of San Francisco which had 391 students (277 men; 114 women) from foreign countries. Next highest was Los Angeles City College with 187 foreign students.

The junior colleges of the state report 12,885 graduates in 1955. Eighty-seven percent of these received the degree of Associate in Arts. The others received certificates or diplomas to indicate completion of courses which did not fulfill the requirements for the Associate's degree.

The junior colleges of California

report 1,001,000 volumes in their libraries, or an average of almost 17,000 volumes each. Forty-three institutions have more than 10,000 volumes each; eight have more than 25,000 volumes each; only five have fewer than 5,000 volumes each. Largest is the library of Los Angeles City College with 86,000 volumes and a full-time library staff of twenty persons.

Average current educational income for 47 reporting institutions is \$842,000. Not all institutions reported this figure. In some city systems it is not feasible to segregate junior college financial data. This is notably true in Los Angeles, none of whose seven institutions report their current educational income. If their figures were available, average current educational income for the state would probably be more than \$1 million per institution. Reported incomes vary from \$15,000 at San Benito Junior College to almost \$4 million at Pasadena City College. Thirty-one institutions report more than \$500,000 each; fifteen more than \$1 million each; four more than \$2 million each.

Total value of buildings, grounds and equipment (adjusted for ten institutions which share their plants with other educational units) is reported as \$125,731,000. Institutional valuations vary from \$320,000 at Palomar College to \$9 million for Bakersfield College with its new campus, and to \$10 million for Pasadena City College. Forty-two institutions report plants valued at \$1 million or

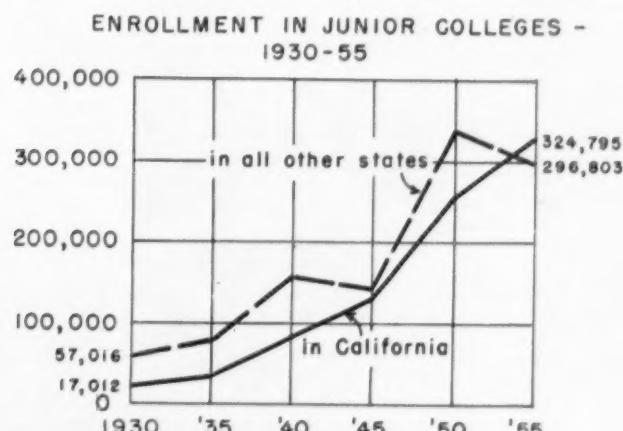
more each; thirty at \$2 million or more; nineteen at \$3 million or more; five at \$5 million or more.

The plants of the seven Los Angeles junior colleges are valued at \$16 million, and at an election in 1955 the taxpayers of the city voted a bond issue to provide \$14 million for plant expansion which will almost double their valuation. East Los Angeles Junior College operates not only its own central plant, but also 25 branch locations in city, county, state and federal buildings for its adult courses.

Campuses of 40 or 50 acres are common for these colleges. Five institutions have 100 or more acres each, the largest being the 245-acre campus of Orange Coast College. The new buildings of this institution have received national and state awards for outstanding architectural design. The College of the Sequoias has a 160-acre farm with experimental laboratories for its agriculture department. Lassen Junior College, located in forested Northern California, owns 100 acres of timberland with an operating sawmill for its course in forestry. Pasadena City College has an astronomical observatory with a 30-inch telescope. San Bernardino Junior College and Long Beach City College own and operate broadcasting stations. Allen Hancock College owns seven airplanes for its flight instruction. Long Beach City College has a child development laboratory which cares for 300 children daily, affording unusual opportunities for student observation. Many of the institutions have extensive athletic and recreational facilities.

Most of the public junior colleges are essentially local institutions, but a few of them serve such large areas that they have provided limited residential facilities. Fourteen public junior colleges have residence halls with a capacity of 819 students.

In view of the above statistics, the junior college, a debutante a half century ago, is now more than ever a respected and accepted institution in America's educational pattern—thanks in large measure to the leadership of educators in the Golden State.



California's junior college enrollment has increased from 23% to over 52% that of the country during the last quarter century.

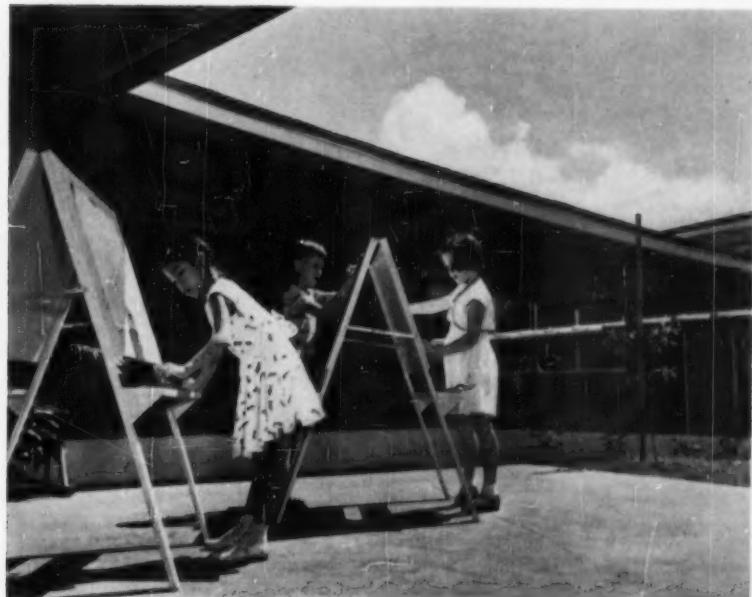
Honolulu's Prettiest School

by MARTHA CLIFFORD
Publicity Director, Punahoa School
Honolulu, Hawaii



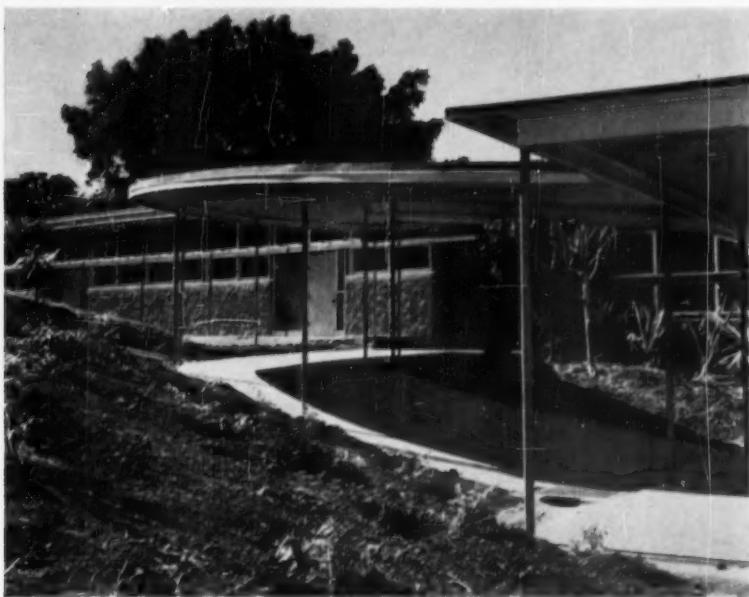
Multi-colored wall highlights Winne's entrance foyer.

Classically modern, colorfully accented elementary plant, built in three stages, is added to Hawaii's independent college-preparatory Punahou School to accommodate 625 pupils



Veranda off each classroom is creative center for painting and handcrafts.

Roofed walkways connect the eight wings of this hillside elementary school.



ON THE SLOPE of Punahou School's Rocky Hill, one of the landmarks in Honolulu, Hawaii, an elementary school has grown, step by step, to spearhead Punahou's modern school planning. Completion of the elementary units last September climaxed Punahou's six-year \$500,000 elementary school building program.

Punahou, the nation's largest independent college-preparatory school, has held a place of educational leadership in Hawaii since its founding in 1841. The new Mary Persis Winne elementary school underscores Punahou's continued efforts to provide top quality academic facilities for its 2600 students from kindergarten through high school.

The Winne elementary school construction schedule has followed the stepping-stone pattern of the buildings themselves. The first seven-classroom unit was completed in 1950, the second twelve-room unit in 1954, and the final building round, including six classrooms, was finished shortly before school opened last September.

While the revealing light of daily use brought minor modifications to the original design, the over-all elementary plan did not change. In addition to the 25 classrooms, housing 625 students in grades 1-5, the Winne school includes a library, an outdoor assembly hall, audio-visual facilities, administrative and counseling offices, art and music offices and a faculty lounge.

Satisfying parents, teachers and students anywhere with a school design is a tall order, according to both mainland and island school planners. Winne elementary school, designed by the Honolulu architect Vladimir Ossipoff, has received



A gentle slope provides a natural spot for the school's outdoor auditorium.



Classrooms are large, airy and colorful; note checkerboard storage wall.



Exterior combines clear glass, redwood and native stone, accented by color.

national recognition as an outstanding example of modern educational design.

The school's main entrance faces Punahou's historic lily pond, with covered ramps leading to a spacious sky-lighted foyer. Offices flank the foyer on one side, while the audio-visual department and classrooms extend on the other. Sloping behind the entrance court, and bordered by classrooms on either side, is a natural assembly area which takes advantage of the site's graduated levels.

Color is strikingly used in the main foyer and administrative office. Glinting under the entrance skylight is a wall of brightly colored panels of bold charcoal, violet, terra-cotta, yellow and white. The terra-cotta shades are combined with natural wood in the offices for a warm, friendly effect. Samples of the youngsters' creative work in glass display cases brighten the foyer.

Distinctive colors also underscore the individuality of each classroom. Principal Victor L. Johnson emphasizes the importance of color in modern design. "We have used bright, happy colors, symbolic of the children themselves," he says.

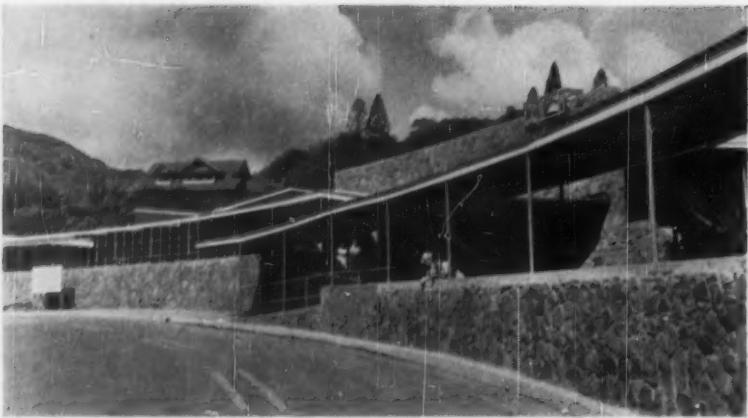
The 25 classrooms are located in eight wings, radiating from the main entrance, opening onto glass-roofed open-air corridors. Covered ramps and concrete walks link the wings. Each of the classrooms is spacious, light and airy and opens onto an individual lanai (Hawaiian for veranda) with an over-all size of more than 1000 square feet. Since Punahou maintains a class size of 25 students, the classrooms provide each student with an optimum number of square feet well above national standards.

Wall-length sliding doors open all classrooms to their lanais and plant-screened gardens which are an integral part of class activity. The gardens, with their vivid Hawaiian flowering trees and tropical plant borders, serve as outdoor classrooms for nature study projects.

Each classroom is planned to provide an area for all academic activity, indoor play, resting, creative art,



Glass-roofed corridors with fixed sash above and operable sash below provide daylighting and weather protection. Smooth redwood and natural blue-gray native stone combine in harmonious exterior patterns. Steel posts, painted bright red, rise from low corridor wall.



Winne elementary school is newest addition to century-old Punahou School.



Fourth-graders set up books and equipment in library corner of their classroom.



Principal's office has built-in desk against pebbled cork wall; overlooks garden.

drama and story hours. A teacher may arrange her room so that group and individual academic work go on side by side while painting or clay work takes place on the lanai.

Ample storage space is an important feature throughout the school. In each room one wall is reserved for the children's use, with rows of built-in individual lockers and lunch-box pigeon holes. The newer classrooms add bright color accents in the checkerboard-patterned wall. Cabinets and lanai closets hold all the materials the elementary teacher needs for her classroom sessions.

The most recently completed section of the school includes four special-help rooms off the main entrance. Each one is air-conditioned and sound-proof and is furnished in natural wood with louvered, frosted glass windows. The visual education room behind them contains a small stage as well as visual facilities and serves as a dramatic workshop for elementary students.

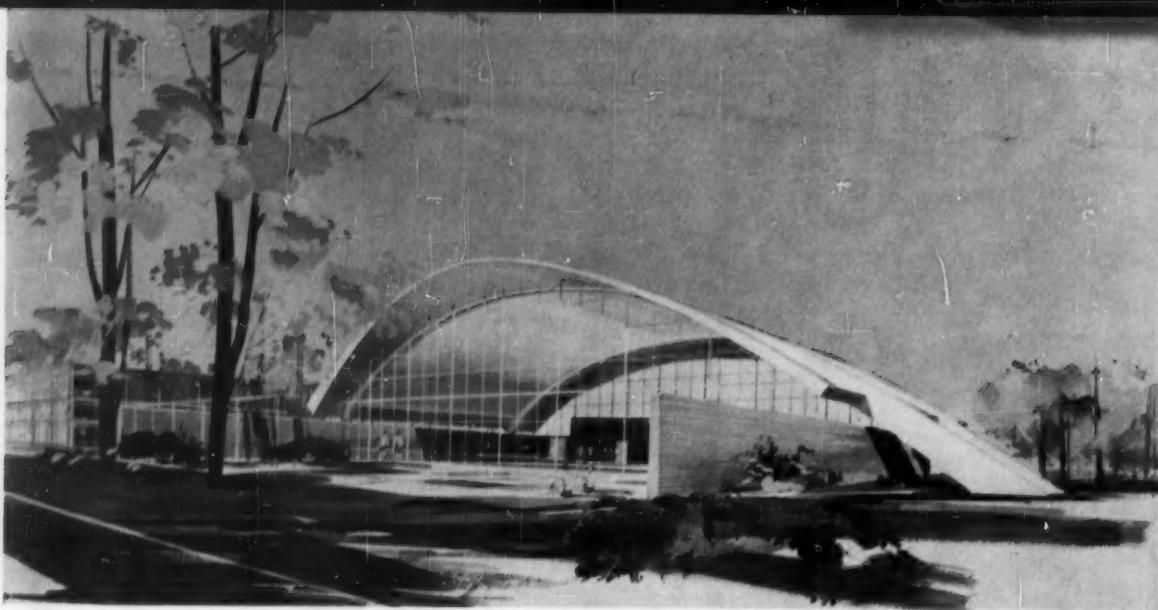
The library, completed in 1950 as part of the first building step, is a large, inviting room. Story hours around its fireplace, which is open on all four sides, have become a tradition.

Cost of the 1950 Winne construction was \$153,000, including the library. The twelve classrooms completed in 1954 reached a total cost of \$200,000, while the last step was completed for \$147,000. Modern facilities comparable to contemporary mainland school construction can be built for considerably less in Hawaii. Architect Ossipoff points out, since integrated use of the outdoors in over-all design is an important economy and because insulation and heating costs are non-existent.

Punahou students, faculty, parents and administrators have unanimously approved the school's elementary units. Modern materials of clear glass, redwood and native stone, accented by stimulating color, have blended into an eye-pleasing, efficiently planned academic asset for century-old Punahou School. Indeed, they see it as Honolulu's prettiest school.

Trends in School Building

So many new school plants are being constructed and so many more must be built in the near future that everyone connected with schools cannot avoid giving serious attention to the myriad problems thus created. All of this activity has brought about many changes in the school plant from what it used to be. Undoubtedly much more will be done. To keep abreast of the kaleidoscopic changes is important but difficult. The Planning Section this month is devoted to a description of the trends—some of the advancing techniques and processes that are being used. A group of talented and competent workers discuss some of the new developments and share their views with you. They give you much useful information which should serve to stimulate thought.



Author Van Nuys finds this outdoor swimming pool an excellent example of form and structure well handled (Derby Jr. H.S., Birmingham, Mich., by Eberle M. Smith Assoc. Inc.)

Trends in School Building:

FORM & STRUCTURE

by JAY C. VAN NUYS

SCHOOL BUILDINGS as we have known them have been traditionally typical for many years. Historically, a pattern has been established and adhered to through the various periods of American development. Buildings were often planned to fit a preconceived design concept regardless of space relationships, space-use or other basic criteria.

The advent of cooperative educational planning on a wide scale and a better understanding by school architects of educational processes has successfully divested the planning process of the shackles of tradition. A new vista for the design of educational buildings has been opened. It is to be hoped that we recognize it in its fullest sense and utilize the opportunities it offers.

Technological developments in the past two decades offer the designer a palette of diversified materials and techniques of a scope never before contemplated. How will we use them?

If we resort to mere substitution of new materials for old, we will not achieve anything more than an applied "new look." Therefore, we must probe deeper for a sound basic point of departure.

Educators have explained in detail the educative teaching-learning processes. Our job is to create archi-

tectural forms that will adequately house these processes. Furthermore the space around a building or spaces between buildings must be designed with the same care as spaces within a building.

Let us consider a few of the materials and techniques available for our use. Prestressed concrete, lift-slab and tilt-slab offer opportunities for a variety of structural systems. The thin-shell dome technique, though not new in concept, can be used economically for many large area enclosures. Panel construction, lightweight concrete and sprayed-on vinyl-plastic offer a variety of treatments with different physical and esthetic characteristics which widen the opportunity for good design solutions.

To list all of the possibilities and their limitless combinations is not the purpose here. Rather, it is the hope that designers may be encouraged to explore the possibilities inherent in these materials and techniques and apply them intelligently so that the basic purpose of each is used to best advantage to solve the particular problem.

Let us not be afraid of new shapes and forms in our buildings. While a straight line is still the shortest distance between two points, it does not necessarily follow that two sets of parallel straight lines delineate the best form of space to be enclosed.

Space for learning is three-dimensional. Analysis of the space to be created, not with the aid of a triangle and T-square but with a thorough understanding of the third dimension involved, will result in a basic expression of form with a purpose.

Having thus expressed the space, it is possible to turn

Mr. Van Nuys heads the architectural firm Jay C. Van Nuys & Associates, Somerville, New Jersey. One of his high schools won a top award in this magazine's recent Competition for Better School Design.

to the technological palette to select the proper means of enclosing, lighting, heating and ventilating it.

The empirical dimensions of a basketball court plus the trajectory of a ball in flight should not define the size and shape of a gymnasium. While this sport is undoubtedly a part of the physical education program, it ought not to be the final determinant of what constitutes a gymnasium.

Window sill heights do not have to be determined by the manufacturer's vertical dimension of a heating and ventilating unit.

Classroom size is no longer determined by desk and aisle dimensions or an empirical formula for maximum room width predicated on light penetration through one bank of windows.

Indoor-outdoor relationships in the framework of desirable environmental conditions will, if properly studied, prove a powerful factor in the resulting design. Structural systems and materials are available and are being used to help define and accentuate this environmental relationship with resulting design forms which, though different, are pleasing because they express and implement the desired function.

Changes in auditorium design

The auditorium, for years a standardized element, has undergone some rather startling changes, attributable primarily to the manner in which this facility is now used. The weekly student assembly, the senior play, the annual musical festival, commencement exercises and occasional community use for a two-night performance of a major production heretofore constituted the utilization of this costly space. The number of fixed spectator seats was the size determinant with some remaining space given to a stage at one end and a lobby at the other.

We now recognize the importance of designing the auditorium to fit the needs of regular curricular activities involving drama, with writing, staging, production and set-building being done regularly by many different student groups. Music, public speaking, forums and many other activities are similarly integrated into the daily program so that the design requirements of these functions become primary criteria with rather startling changes in form and structure resulting.

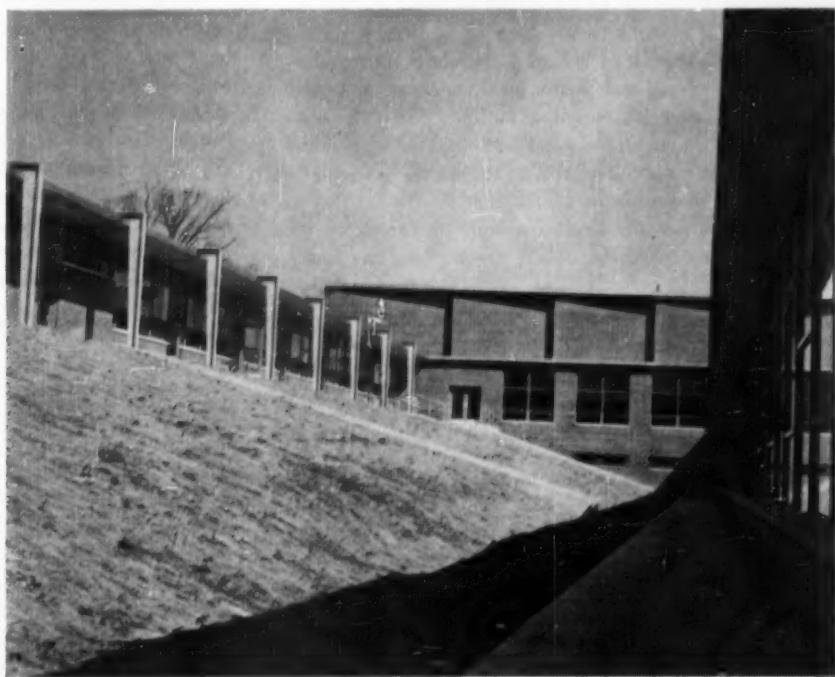
Cafeterias, no longer considered as mass feeding spaces, are changing in shape, size and proportion. To design a space where the eating procedure will have an opportunity to develop into an educational process requires environmental treatment that will stimulate the participants. Such a treatment will, of necessity, emanate from a basic structural concept to provide the kind of space where this objective can be attained naturally. Scale, proportion, acoustics, color, texture and decoration, as well as furnishings, must all be selected with this end result firmly in mind.

The few specific areas mentioned above, if designed to meet the criteria outlined, will alone undoubtedly result in some rather drastic changes in building form and structure. These changes should be encouraged, not feared.

With wider acceptance of the type of educational program resulting in decentralization of educational elements within a school, sometimes labeled campus or cluster type buildings, the designer has an additional responsibility of vast importance. The physical separation of buildings is relatively simple to achieve but must not be done in a manner which might give the feeling of isolation. It is in such a situation that the importance of planning spaces between buildings becomes evident.

Composition of buildings and spaces, along with re-

The popular device of breaking up the school plant into small units must be handled with care to preserve a feeling of unity. Here is an example of Van Nuys' decentralized Newton, N.J., high school.



lated physical site features, requires much study. If properly executed, the overall plan will express the adolescent need of small group expression while at the same time being a part of the large or total group. Again structural expression and building forms will play a significant part in uniting the separate entities in an esthetically pleasing way.

In reviewing the impressive progress in school design of the past decade, we must concede that from a purely architectural viewpoint success has been achieved at the cost of some undesirable interpretation. In the efforts to avoid monumentality and traditional ornamental treatment, we have been plagued with stripped-down buildings which are austere, drab and uninteresting. This has been primarily due to a lack of understanding as to the basic approach to a new concept of school design. If a thorough knowledge of the educational pro-

cesses had been adequately and artistically translated into appropriate architectural forms, better results would have been assured.

The architecture of educational buildings, as we continue to broaden our cultural and economic base, will, I am sure, become more satisfying and interesting in the future. The growing trend toward a return to integration of the fine arts in architecture will not only result in structures which are more pleasing esthetically but will also become an educational tool in and of itself.

The development of new forms, honestly derived, the complete understanding of the purpose and potentials of new materials and techniques and the sensitive use of sculpture, painting, ceramics and related arts will result in better school buildings as well as the opportunity to contribute substantially to the changing scene in American architecture.

Trends in School Building:

THE ATMOSPHERE

by WILFRED F. CLAPP

ENIRONMENT AFFECTS learning. The real learning is a result of the child's total experience in his environment. He may be learning that school is unpleasant, boring or frustrating; or he may be learning that school is interesting, challenging and satisfying, depending upon the experiences he has in his school building. It will be hard to teach a child to be clean in a dirty building, or to have him think of school as attractive in a building which is severe and institutional. So it is important that the building be one that children react to constructively. It must have good atmosphere. The finest compliment to an architect about his building is a child's remark, "I'd like to go to school there."

Just how to get this kind of a building cannot be set forth in a one-two-three order; it involves too many intangibles.

First, there must be a desire on the part of the school authorities for an attractive building, with emphasis on humanness. This must take precedence over some other considerations such as cheapness, "practicality" and notions as to architectural style, although a building attractive to children need not be extravagant or impractical or grotesque. The architect must also have a real desire to create this type of a building. With him

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this must take precedence over haste in planning, use of stock details and perpetuation of preconceived solutions.

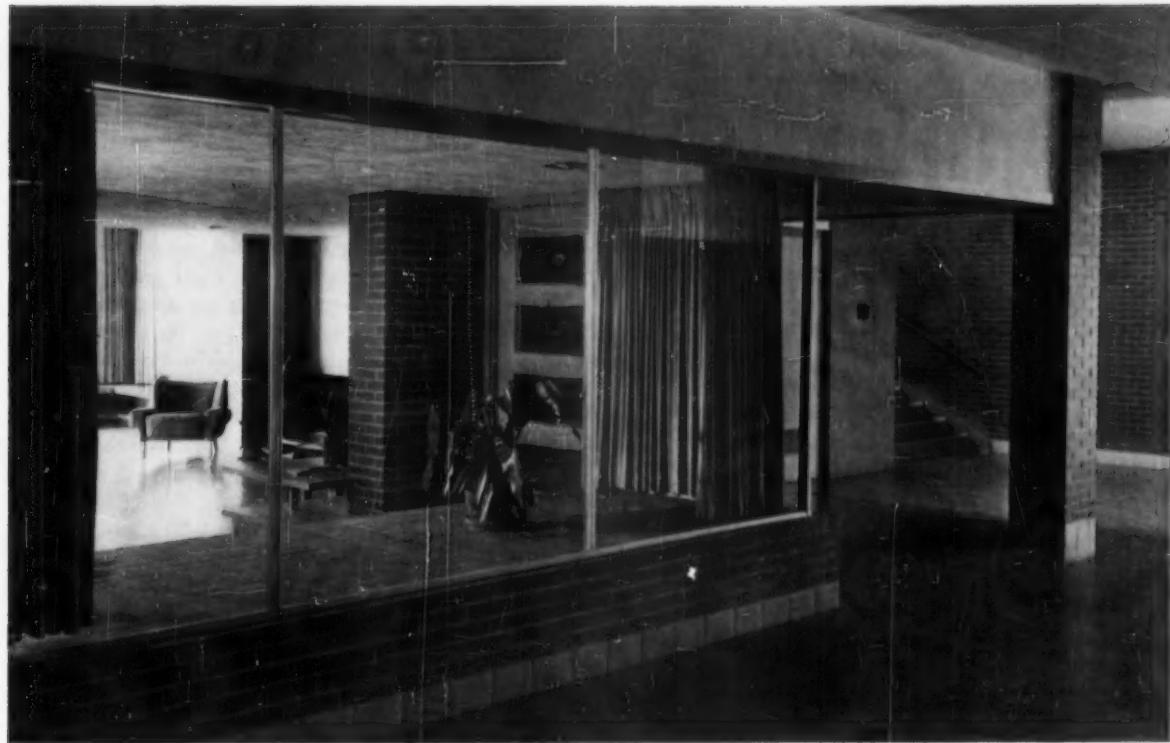
Second, there must be an understanding of children, how they react and how they learn and grow. Both the client and the architect must have this understanding, perhaps in different degrees.

Third, there must be mutual confidence between the architect and client and mutual understanding of problems and viewpoints. The architect must be stimulated to do something better. "One cannot contract for a work of art." But one can prevent a work of art from resulting by the kind of treatment the architect is given by the client during the process of selection and defining his task. Creativity does not flourish in a climate of restriction and pettiness. There must be a wedding of minds between the architect and his client and a mutual desire to have something better.

How does the building speak?

The child first sees the building from the exterior. First impressions are important. What does the building "say" to the child? Does it say "Come in if you dare," or does it say "Come in, you'll like it here"? Is it superimposed on the site, or does it seem to grow out of it and belong to it? Is the building monumental, awe-inspiring, formal and rigidly symmetrical, or is it just the opposite?

A school building should not look like a temple, a church, a factory, a prison—or even a home, for that matter. Its architecture should express its function. It should look like an interesting place in which to learn



Entrance lobby of this Midland, Michigan, high school provides a comfortable space for between-class socializing.

and work together. The proper location of the building on an ample, attractively landscaped site helps to create desired impressions.

The impression given the child by the exterior should be continued as he enters the building. The entrance should seem to flow in from the out-of-doors. Some architects continue the materials used on an exterior wall through to the interior, with large expanses of glass to emphasize the continuity. Planters, both inside and outside the entrance, also help to give this feeling.

If one can come from the outside into an entrance lobby which seems to say "welcome" it will certainly have an effect on his general reaction to the building. In an elementary school, such a lobby might be of about the same size as a classroom. A fireplace and warm and interesting finishes will help to create the desired atmosphere. Furniture should be of the informal, living room type. Such a room will be very useful in many school functions, for mothers' group meetings and for small, neighborhood meetings.

Need place for social living

In a secondary school, the entrance lobby is also useful. In many secondary schools there is a need for time to relax and for space to relax in. Period breaks in some large high schools see students rushing headlong from one class to another—the walking distance is too great and the time allowed too short to permit relaxation and visiting with fellow students. Sometimes the procedures, both in and out of classrooms and study halls,

seem designed to prevent communication. Again, consideration of what the student's real learning is might bring about improvement.

Realization of the situation has resulted in recent attempts to design both the program and the building with an emphasis on human values and group living. The "lobby" is enlarged to become a student commons. There is a place for free reading, for casual conversation, for normal social activities. Grouped around the commons are those spaces housing student activities, such as the school store, the student government space, the school publications office and the cafeteria. This lounge, or commons, is used during free periods somewhat like a college union building. It should be of the proper size and have the necessary equipment to fulfill its function. Properly handled, it can constructively affect the atmosphere of the entire school.

Now a few specific suggestions for obtaining good atmosphere.

Building Size: Small children react negatively to a big building. Even older children, it is believed, have somewhat this same reaction. Therefore, the trend is to have smaller elementary schools. If a large plant on one site is needed because of congested population, attempts should be made to remove the appearance of bigness by spreading the building out or breaking it into smaller units.

High schools, in order to offer a complete program, have to be large—although some are no doubt too large. Unless careful thought is given to the operation of the

program and to the design of the building, institutionalism results. Some newer secondary school plants have been designed on a spread-out, or campus plan, depending somewhat on the climate. As the mass of a single building becomes greater, the difficulty of providing a non-institutional, friendly atmosphere increases.

Finishes: Here warmth and variety should be sought. Perhaps some efficiency in maintenance may have to be sacrificed. The building should not be too "antiseptic." An abundance of glazed tile may be very proper for a hospital corridor, but it certainly can be, and often is, overdone in school corridors. There is a wide opportunity for architects to be imaginative in making wise use of the wide variety of materials now available for interior finishes.

Color: Here again, variety is desirable. There is no reason why all schoolrooms have to be painted the same color; nor is it essential that all walls of one room be the same. Recognized principles of brightness limits for comfortable vision should not be ignored, but neither should the classroom be too "bland." Small areas, such as doors, can use more violent colors.

The psychological effects of different colors should not be neglected in the attempt to create a desired atmosphere in a given space. Should a library, for example, have the same color as a cafeteria? Should a science classroom with a sunny exposure have the same color scheme as, say, an art room with a northern orientation?

Visual Conditions: Good visual conditions, particularly in areas where considerable reading takes place, are, of course, of primary importance. The atmosphere of any space will depend considerably on comfortable lighting; a glaring and distracting lighting system should always be avoided.

Although it is possible to design a given space with practically perfect conditions for visual comfort and efficiency without use of any natural light, such could hardly be desirable for a classroom in regular use. Closeness to the outdoors, rather than confinement, should be the desired design objective. Variations from

time to time in the amount of natural light are probably psychologically beneficial, yet it should be understood that high brightness from daylight sources is just as objectionable as high brightness from light fixtures.

Acoustics: One need only visit an older school designed without any thought to acoustics and then a new building with good acoustics to be convinced that proper acoustical treatment makes a decided contribution to good atmosphere. Attention should be paid to noise transfer, isolation of noisy areas and reverberation within spaces. The answer is not always to install acoustical tile on the entire ceiling. Size and shape of spaces also affect acoustics. The use of a space and the activities to be carried on within it should be considered. A space may be too "dead" as well as too "live" acoustically.

Thermal Comfort: No building can be said to have a good atmosphere if occupants are uncomfortable because of either excessive or insufficient heat. So proper heating and ventilating are important. Again, there is no stock solution to apply to all schools. Climate, orientation, available fuels, type of building and activities in different spaces all have a bearing on design. The atmosphere is literally not good when odors from the chemistry laboratory or the cafeteria kitchen are circulated throughout the building. Nor is the atmosphere in a classroom desirable when there is inadequate ventilation.

The creation of good atmosphere is not, however, guaranteed by attention to heat, light, sound, colors and exterior finishes. The key is the coordination of these elements and many others, plus the desire to have a friendly building for children. In this case the whole is greater than the sum of its parts.

The skilled artistry of a creative architect, plus the enthusiastic encouragement and help of the school authorities, is what is really needed. Planning may take longer than is the case when one designs practically the same building again and again. But it will be worth doing, for the building with good atmosphere will be a good place for children during its entire life.

Trends in School Building: THE SITE

by JOHN H. HERRICK

THE SOLE PURPOSE of having a school site is to promote a good school program. Thus the basic test of a site is its potential contribution to the achievement of

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the purposes which the community seeks to accomplish through its schools.

In this respect the site is no different from a textbook, a filmstrip or any other teaching aid. While the emphasis on program adequacy is properly a major one, attention must also be given to health and safety; costs of acquisition, development and maintenance; ease of reaching the site; and the nature of the neighborhood in which it is located.

Before judging whether an existing or proposed site is

adequate for the school program, a careful look at the school program itself is required. Outdoor physical education classes, intramural games, interscholastic contests and informal play after school or at other out-of-school times are common uses of outdoor facilities by school children. Other school activities which might be included in the outdoor program are gardening, growing of field crops and forests, nature study, practice of conservation, painting and sketching, the staging of plays and the production of concerts.

It is true that some of these activities are not included in the program of many schools today. It is equally true, however, that all of these site uses are found in some of our better schools. But the fact is that school programs are orienting toward such diversified outdoor activities, and this must be taken fully into account when selecting a site. The future school program, rather than the current one, must be given the greater weight in establishing the size of the site and in forming a long-range plan for its development.

Coordinate with community needs

In addition to the many school activities for which outdoor space is required, there are numerous community programs requiring parks, recreation fields, picnic areas and other outdoor facilities. These activities may or may not be classified as "non-school," depending upon the locality. In any event, public schools and public recreation programs are paid for by the same taxpayers, and the school authorities share with other public officials a responsibility for avoiding needless duplication.

This does not imply that public school, recreation and park activities must always be confined to areas jointly used, but it is the clear responsibility of those charged with the selection of school sites to seek the cooperation of other public agencies and citizens in studying the total community needs early in the site-selection process.

Consideration of the program adequacy of a site is reflected primarily in its size and in its development. No arbitrary specification of size is defensible, but there are certain guides that are helpful. The American Association of School Administrators in its 1949 Yearbook (*American School Buildings*, p. 75) and the National Council on Schoolhouse Construction in its *Guide for Planning School Plants* (pp. 26-27) propose certain minimum sizes. For an elementary school, they recommend at least five acres plus one additional acre for each 100 pupils in ultimate enrollment. For a secondary school they recommend an additional five acres. These minimum sizes are often not met, especially in cities, but, on the other hand, they are being exceeded in many, many cases. The 27th Edition of *The American School and University* reports, for example, that in 1954 new sites ranged from extremely small sites to one of 120 acres (p. 70).

While standards such as these are useful as general guides, the only satisfactory answer to the question of size must be sought through a trial layout of the needed facilities on a proposed site, and this preferably with the assistance of a competent architect or landscape archi-

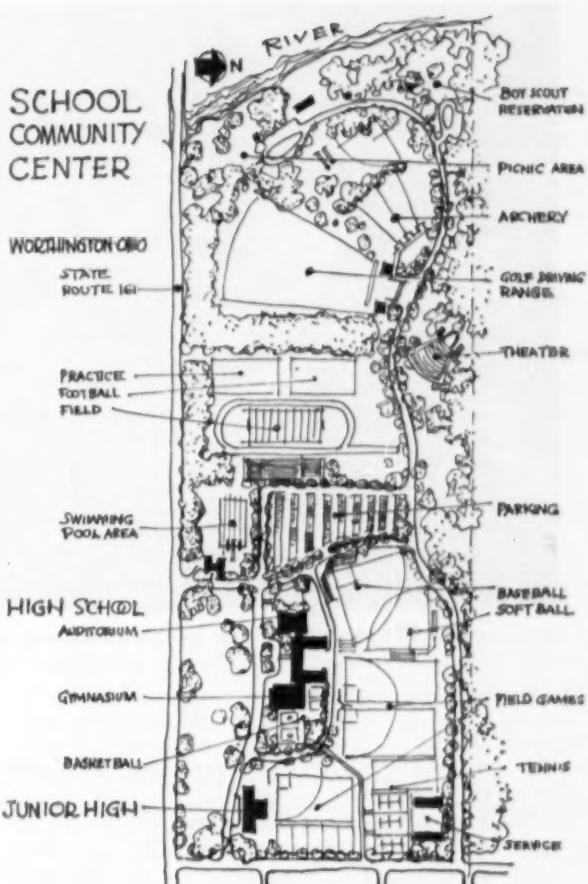


Illustration from *School Program to School Plant*, courtesy Henry Holt and Co.

Plan of an 80-acre school-community recreation center.

tect. The building, parking and traffic areas, playfields and other outdoor facilities should be drawn on a plan of the proposed site to test whether the size and shape of the land will permit the inclusion of all needed facilities in a relationship to one another that will permit their ready and safe use by all prospective patrons. It is often helpful to use templates cut to scale so that various layouts of the site can be more quickly tried.

Give school room to grow

It is essential in site consideration not to overlook the probability of future program expansion. Present-day practices in physical education and public recreation put a severe strain on the "postage stamp" sites of many schools erected when school authorities did not foresee adequately the program changes that would take place.

This mistake should not be repeated. The current emphasis on health and physical education, the increasing attention to public recreation and the growing prospect of an even shorter work week should put all school and recreation authorities on notice that larger areas of



Hanover Park, N.J., high school has good separation of pedestrian and vehicular traffic (Jay C. Van Nuys, architect).

land for recreation purposes than we have today will be needed in the future.

The emphasis on program adequacy should not obscure the need for full attention to health and safety in the selection and development of the site. The location of the site should minimize the hazards that pupils will encounter between home and school. Among the hazards to be considered are walking along a heavily traveled highway where there are no sidewalks, crossing busy streets or railroads, walking along unprotected streams or through wooded areas, and passing through industrial or commercial sections. The site should also be located in an environment which does not pose moral dangers to pupils.

Safety is also a factor to be considered in the development of the site. Here again size is important, since the danger of accidents increases when pupils are crowded into too small a playground area. Proper setback from the street or suitable fencing is required to restrain pupils from running impulsively from the building or playground into oncoming traffic.

Of primary importance in site development is the proper separation of pedestrians and pupils at play from moving vehicles on the site. Service drives and parking lots should be so located that there is a minimum of intersection with foot traffic lanes. A very common error is the drive that encircles the building, thus forcing all pupils to cross it to reach the playgrounds. Separate lanes for bicycles and suitable storage racks properly located are also important.

When any considerable range of grades is accommodated in a single site, it is desirable, in the interest of safety as well as better program functioning, to provide

separate play areas for children of different ages. There should also be zoning to place swings and other equipment where there will be a minimum of hazard to children using or passing to and from other playground areas.

Take long view of purchase price

There are two frequent errors with respect to site cost. The first is to attach too great importance to the purchase price of a piece of land which will represent but a small fraction of the total cost of the project. An exorbitant price should not be paid—and need not be paid if the right of eminent domain is exercised—but, on the other hand, one should never lose sight of the fact that educational effectiveness is at stake. If an inadequate site is chosen to save a few thousand dollars on the purchase price, generations of school children may be cheated. The selection of a site which is educationally inadequate is essentially the same kind of error as omitting some necessary space within the building.

The second frequent error in considering site cost is the failure to estimate the effect of topography and subsoil conditions on the costs of grading, excavating and constructing footings, or overlooking unusual expenses for drainage, utility lines, sewage disposal, long access drives and the like.

Modern construction methods can cope with most, if not all, of these adverse conditions, but the unusual costs involved should be fully understood before the land is purchased. The expenditure of a few hundred dollars for test borings made under the supervision of a competent engineer or architect is usually a wise precaution.

EQUIPMENT

by WILLIAM V. GODSHALL

THE SELECTION of equipment for the Hanover Park High School, in New Jersey, followed a pattern that typifies the new trend in equipping schools. Since no school had existed previously, ours was a start-from-scratch procedure.

The people wanted a building planned with adequate facilities and a program to meet today's educational needs yet flexible enough to change with the years. Educational consultants, the architect, the board of education and professional staff and representatives of the people of the community all had a part in determining these needs. This planning recognized the learning habits of students and the techniques which should be employed by master teachers. When this was completed, costs were calculated and found to be consistent with the community's ability to pay.

A study of equipment needs was started early in the organization stage. Certain guideposts were agreed upon to implement the program as follows:

1. A plan of operation was adopted to define and delegate responsibility.

We began with a study of needs in all areas of the school. This was simplified by compiling lists in alphabetical order by curriculum areas. The needs were summarized into categories: desks, chairs, tables, filing units, books, storage units, student storage units, clothing units, locker room equipment, cafeteria tables and chairs, text and reference books, supplies and materials for instruction, visual aids, etc. Key teaching personnel who had been recruited by this time were asked to outline their equipment needs. Their recommendations were then reviewed by the administration and final recommendations were presented to the board of education.

2. A time schedule was developed to correlate with building progress.

A simple chart was used to plot the progress and needs of the equipment program with the progress of the building construction. This was not only to give assurance of having the proper equipment ready when needed, but also to help eliminate errors and omissions in both the building and equipment schedules.

3. Assistance of others professionally trained and

Dr. Godshall is superintendent of the Hanover Park Regional High School District, Florham Park, New Jersey. The new school whose equipment selection program he describes here won a top award in this magazine's recent Competition for Better School Design.

experienced in equipment selection was solicited and reference materials were collected.

Frequent conferences were held with leading educators, administrators and specialists to determine the type and kind of equipment best suited to our needs. As a result of these studies several conclusions were reached:

A variety of sizes and types of students' desks and tables would best meet the needs of the high school program. Simple, clean design is preferable. Color should be used where it would blend with building plans; blond finishes are desirable. Modular, movable storage units are necessary to provide the flexibility of program requirements; stackable furniture is helpful in achieving this flexibility. Durability and strength of product are important. Maintenance must be kept to a minimum. Finish, appearance and beauty of product must blend and harmonize with architecture and building design.

4. Specifications were drawn to meet the educational use of the product.

It soon became evident that certain sizes of furniture units would be needed in classrooms, activity corridors, the commons, the cafeteria, the gymnasium and other special areas. A sliding door storage unit with adjustable shelves will serve as a convenient space for many of the instructional supplies and materials. Open front shelving units are necessary for text and reference books and other printed material. Teachers need space for filing papers, pamphlets and other aids. Another unit was needed to handle books and serve as a homeroom unit for students.

Lockers eliminated from plan

Since lockers are not provided in any location a clothing unit is essential for students' and teachers' clothing. A portable basket storage unit for the locker room in the gymnasium was considered more practicable than a locker. Lockers were eliminated in all areas after carefully considering the advantages and disadvantages of their use as contrasted with other methods of handling the clothing and book storage problem. Although it was conceded that a problem might exist if locked facilities were not provided, it was agreed that open storage of both books and clothing was preferable in that it would emphasize honesty and student responsibility.

For all of the classroom units, formica tops and finished backs seemed essential in order that the units could be placed wherever needed to provide a variety of space and teaching relationships. The clothing units

have teaching surfaces on the back and can also be used as space dividers to provide small study or group activity areas.

The commons will be furnished with lounge chairs and tables to provide a relaxed and informal learning space. Surrounded by the auditorium, library, student lounge, lunchroom and administrative offices, this commons is the living center, or hub, of all school activities as well as a pleasant waiting space for visitors. A relaxed, social-living atmosphere is provided not only through the use of color on the walls, floors and doors but also by draperies, paintings and furniture.

Lunchroom is non-institutional

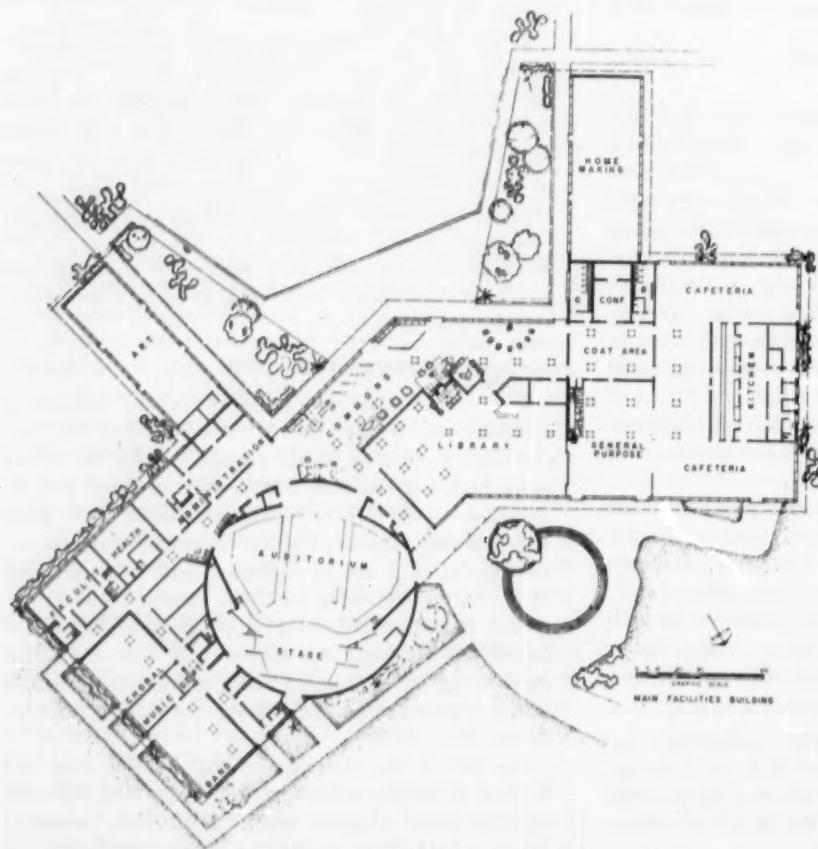
The lunchroom, too, is attractively furnished in line with the view that eating and social behavior patterns formed there are part of the learning process. It is informal and non-institutional and designed as a place where students want to go and where associations, friendships and the social graces are encouraged. Oval, round and rectangular table tops, on attractive metal bases, for example, preclude any feeling of regimentation. Chairs are of simple but modern design in some of the newer materials. Recordings are played over the public sound system to create a desirable atmosphere and an appreciation for good music. And, with all this, the lunchroom is a functional and usable space for banquets, conferences, or even class sessions.

5. A budget was agreed upon and a plan of purchase was adopted.

As a result of the studies of proposed need, it was possible to estimate the cost of equipment and include this amount in the bond issue. Suppliers and manufacturers of the equipment were asked for prices for comparative purposes. In some cases a bidding procedure was followed, while in other instances price comparisons were used as a basis for purchase. Orders were placed according to the prearranged time schedule to allow ample time for delivery and installation prior to the opening of school next month.

The opportunity for staff members to help select equipment is highly valued by teachers. Too often they inherit equipment, supplies and even courses of study, and are not privileged to be a part of the planning team. Our teachers have seen this as a challenge to set up an ideal program. People who are going to work in the lunchroom, custodial and transportation areas were also asked for ideas and recommendations for supplies, materials and equipment. People in the community, as well as future students also had a part in the selection process.

The planning and execution of this program for selection of equipment, and the excellent help from the people involved, we believe, is good assurance that Hanover Park High School will be well equipped to meet the educational needs of our first class this fall as well as future classes for many falls to come.



The commons in Hanover Park's main facilities building, the hub of all school activities, is equipped and furnished to provide a relaxed social-living atmosphere.

Trends in School Building:

COSTS

by N. L. ENGELHARDT, Sr.

THE Division of School Buildings and Grounds of the New York State Department of Education periodically issues bulletins on school building costs within the state. Seven of such bulletins, under dates of September 18, 1952 to March 12, 1956, include costs per square foot and per cubic foot reported to the state on 230 buildings erected during that four-year period.

These costs ranged from \$10.11 to \$24.25 per square foot, and from \$0.71-0.75 to \$2.16-2.20 per cubic foot. School buildings erected elsewhere in the United States during this period were reported to range as low as \$6.50 to \$7.00 per square foot to the highest New York State figures.

The lows and highs in New York are interesting because they represent the spread of square- and cubic-foot costs throughout a state where there is a wide variation in what can be purchased for the dollar. They also represent schools which are planned with friendly supervision by the division of school buildings and grounds. In this supervisory program the state seeks to recommend economies that may be secured in the use of space as well as building materials, a reasonable simplification of design, and adjustment to educational needs growing out of today's philosophy and teaching methods. It might be logical to assume that these costs would show less spread, but labor and material costs vary widely between large metropolitan areas and the up-state counties.

Post-Korean price rise

The trend upwards is marked in both the lows and the highs of these years from 1952-6. Previous to the Korean conflict it was unusual to find square-foot building costs anywhere in the United States rising above \$20. The Korean conflict brought on a price rise which has, with slight abatement, moved upward until a range beginning with \$14.01 and mounting to \$25 per square foot appeared in the New York State figures of March 12, 1956.

Comparison among school building costs is essentially unfair and unrealistic. New York State seeks to get its reports on a uniform basis from the officials who are working in each of the many communities of the state, though no doubt many departures from the uniform

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occur unwittingly or unwittingly. There is no uniform method of calculating school building cost figures among the several states or for the nation as a whole. Every conceivable variation from a uniform practice could probably be found if an analysis were made of all the procedures followed throughout the nation. The differing practices may be defensible but they constitute a real handicap to fair unit cost comparisons.

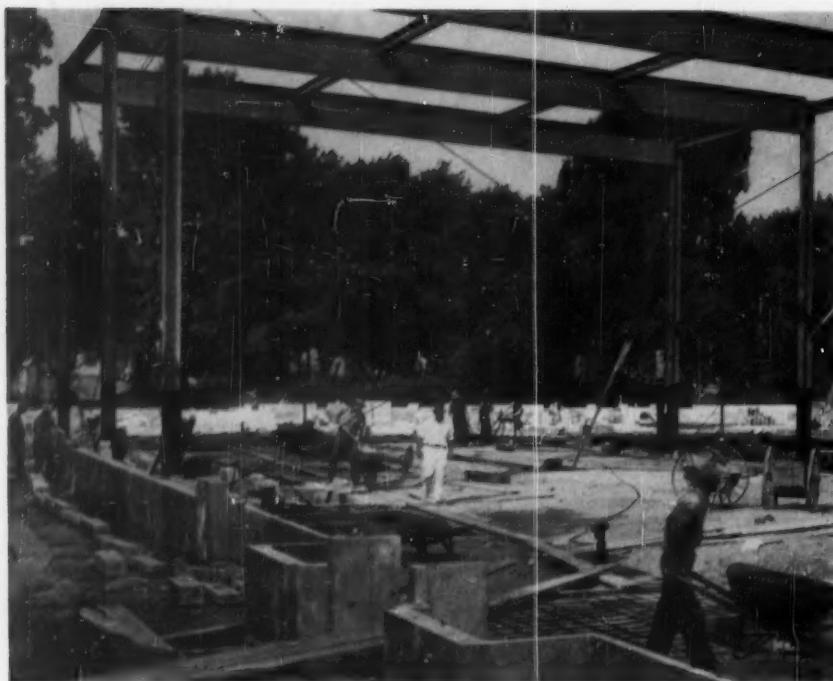
Costs lowest in southeast

It is a matter of common knowledge that school building costs in the southeast run much lower than the costs in the far west, the northeast or the northwest. In the southeast, square-foot unit costs for austerity types of construction, which may be fire-resistive to a considerable degree, reportedly range from \$7.8 to \$12.13 or more. Although quite similar austerity programs of construction are transferred further north or to the middle west, unit cost figures make for unfair comparisons unless weighted in terms of the varying economic factors. It is clear that all sections of the country have been forced to resort to every possible economy and that architects and educators are striving to get a maximum of educational facilities out of the dollars they spend. But they strive in vain for similar unit cost figures inasmuch as wide divergences in labor costs and practices and in costs of material continue to exist, within a region as well as across the nation, and must be recognized in cost comparisons.

There will always be a wide difference in costs among the sections of the country. Because California, for instance, is required to conform to the Field Act for protection against earthquake loss or destruction, an extra burden of costs must be carried by each schoolhouse. To compare California with other areas not forced into this protection is unfair. Other sections of the country likewise have special conditions to meet, which may not be dictated by law but rather by climate, remoteness to markets or even customs of the people.

Tend to select "cheap" architects

Boards of education sometimes tend to select architectural service on the basis of unit cost data of previous building planning and construction. It is unfortunate that no way has yet been found for boards to discover whether such data presented by the several architects are actually computed on a similar basis. With every desire to present accurate data, the architect finds himself in a dilemma when he knows that others may be figuring square-foot or cubic-foot costs by different



Wide variations in labor costs and practices nullify any attempts at comparing cost figures for schoolhouse construction.

formulas. There are many small items of variations which, when grouped together, may make as much as one or two dollars' difference in the square-foot cost. Another area of error is the total amount stated as the cost of the structure. Again there is no uniformity with reference to the items which are included in the costs. Recently the author found comparisons were being made between two school systems which differed widely as to what was included in cost; contractual costs in one case did not include as many of the built-in items as did the other. Only the utmost of precaution on the part of the board of education and its officers will bring to light such differences in practices and their resultant influence on unit cost figures.

Compare purchases, not costs

Another factor which tends to bring about wide differences in the unit costs centers around what the board of education actually buys. The construction contract may eliminate a very large part of the built-in equipment. On building occupancy the board may be content with the most meager equipment because of a tight budget. The educational requirements may spell out wide differences in the kinds of facilities that are provided within a building. For instance, one building may have a well-equipped health unit and another may have none. One building may be just a mere collection of classrooms while another building may have many modern laboratories.

Thus, in the main, comparisons in unit costs should be used only with the utmost caution and should certainly not be the sole measures for vital administrative decisions. The information given to the public about the unit school building costs in Community X as compared

with those in Community Y should explain clearly that no two school buildings are alike, that the costs represent what the boards had decided to buy, and that wide differences are to be found in the different purchases of the two communities.

School boards throughout the nation are seeking "good buys" rather than a hazy or meaningless unit cost figure. They want schools that fit the community's needs and that will continue to serve well over many decades. They desire buildings for which future maintenance costs will be low. They want schools which will long be creditable parts of the community scene. A "good buy" results when the planning processes result in working drawings and building specifications from which will come truly competitive bidding without padding of figures due to unclarified plans.

One frequently hears the question "Are the contractors hungry?" If they are, the chances for a low cost are far better than when their firms are overloaded with contracts. Boards of education should try to get their bids arranged for the early spring; a lower price can generally be obtained then because contractors at the beginning of the year are trying to build up their entire year's work program.

Many factors enter into the school planning process which affect the timetable. If many school boards had been able to get their buildings under contract in the late spring rather than early fall of 1955, they would have saved considerable money which would have been reflected in unit cost data for that year. In most cases the responsibility for delay does not rest on any one person or group. It may simply be the delay of the entire planning process. In this day and age, when citizens and faculties as well as boards of education participate

in all stages of planning, unexpected delays will frequently occur.

In New York State wide differences between low bids and original cost estimates appeared in the bidding between early spring and late December of 1955. A table issued by Superintendent John L. Miller of Great Neck shows low bids during this period tended to exceed the original authorization, varying from 1 percent to 44 percent. The average over-run was about 19 percent.

Apparently unexpected and unforeseeable increases came in the long period between estimating a project when it was first started to the time when bids were submitted. In many of these cases costs might have been lower if several more bidders had entered into the contest and one of them had entered a bid lower than any presented. There are contractors who say that bidding on a school building under the conditions usually set by law is pretty much of a gamble. The contractor spends a considerable amount in preparing his bid and gambles on getting back that investment by being selected as the low bidder.

Cost comparisons unfair

Every school board should be fully aware of the injustices, even hazards, associated with making unit cost comparisons. No single uniform plan of determining unit costs exists. There is no state in which the same details of calculation are followed completely by those working within the state. The items within a complete budget for a school building project are many indeed, but there should be uniformity in the items that are included in the construction costs. Today a school building project includes more of the facilities that adjoin the building

or that make for a complete educational facility, including the grounds, the outdoor play areas and even the fences that surround them.

There is as yet no one unit of cost which can present the true picture for all school projects. The author suggests in a new book, *School Planning and Building Handbook*,* that the weighted pupil station be considered in lieu of many of the other costs. This might be a subject for study by the National Association of School Boards as they move forward in bringing light into a field which many times is overshadowed by inaccurate data or faulty practices.

As new schools are built, future unit costs are bound to rise. The national market is moving in that direction. Trend charts show a definite upward glide which would seem to have no end in sight. Though school boards are resorting to the utmost of austerity in planning, the educational program cannot be curtailed. The advance of our American society requires more in the way of facilities. The school program can, however, be advanced in buildings which represent true economy without neglect of the important products which our economy produces.

It is clear that in the national professional circles of administrators, architects and school boards, concerted action might well be taken to assure greater accuracy in reporting school building costs. Perhaps some day one of the private educational foundations will set up a system which will permit of auditing school plans and putting the seal of such an audit upon the plan so as to assure comparability in costs.

*Planned for publication by F. W. Dodge Corporation, New York, N. Y., September, 1956.

Schmidts Hardman & Wong, architects



This California elementary school bore additional costs for earthquake-proof construction, required in that state.

SPOTLIGHT

news of the educational field

Brownell Resigns to Head Detroit Schools

WASHINGTON—U. S. Commissioner of Education Samuel M. Brownell has resigned, effective September 1, to accept the position of Superintendent of Schools in Detroit.

Dr. Brownell first came to Washington in 1953, upon the invitation of Oveta Culp Hobby, then Secretary of Health, Education and Welfare.

The Commissioner's new post offers \$30,000 a year on a five year contract. As Commissioner of Education, he received \$14,800.

Rumors regarding candidates for the vacancy mention Kenneth E. Oberholtzer, superintendent of schools, Denver, and Jordan L. Larson, superintendent of schools, Mt. Vernon, N. Y., both of whom have served as presidents of AASA.

Hunt Back to Harvard After HEW Service

WASHINGTON—Herold C. Hunt, borrowed from Harvard's School of Education for a year's service as Under-Secretary of Health, Education and Welfare, will return to Harvard in a few months. Rumors do not include him as a potential candidate for Commissioner of Education, which will be left vacant when Samuel M. Brownell retires September 1 (*story above*).

At Harvard, Dr. Hunt is Eliot Professor of Education.

Champlin Joins Conn. State Ed Department

HARTFORD, Conn.—George R. Champlin has been appointed chief of the Bureau of Elementary and Secondary Education, Connecticut State Department of Education.

Dr. Champlin has been superintendent for the Windham, Conn. schools for the past eight years and will assume his new post next month.

This pre-centennial year . . .

NEA Vows Fight for Federal Aid As 10,000 Meet in Portland

PORTLAND, Ore.—Over 10,000 educators crowded into this northwestern city in the shadow of Mount Hood, July 1-6, for the 94th annual meeting of the National Education Association.

For six days, the classroom teachers, principals, administrators and friends of education listened to speeches by leading figures; attended discussion groups on topics of interest to school people; feted and feasted at organizational breakfasts, luncheons, dinners and cocktail parties.

Many of them were delegates to the meeting of the NEA Representative Assembly, convening for the 35th time in its history as the legislative arm of the giant educational organization.

Leading speakers at general sessions were Eric Johnston, president, Motion Picture Association of America, and Special Ambassador to the Middle East; Lee A. DuBridge, president, California Institute of Technology; and Bishop Gerald Kennedy, The Methodist Church, Los Angeles.

Mr. Johnson addressed the first general assembly. He spoke on "Be Proud to Teach—But Pride is Not Enough." Dr. DuBridge spoke before the third general assembly on "Science—the Endless Adventure."

Bishop Kennedy, leading speaker at the vesper service, discussed "Christ and Wisdom."

Other speakers included John Lester Buford, superintendent of schools, Mount Vernon, Ill., and NEA president; William G. Carr, NEA executive secretary; Mrs. Rollin

At the NEA Convention . . .

. . . members vowed to continue pushing for federal aid to education

. . . discussed plans for stronger NEA commission to defend teachers against "unwarranted attacks, unfair treatment"

. . . set up machinery to send representatives to local school systems to help teachers win salary increases

. . . heard news of a proposed radio-TV program to tell the public about its schools.

Brown, president, National Congress of Parents and Teachers; Samuel Brownell, Commissioner of Education; J. Addington Wagner, national commander, American Legion.

During the convention, conferees attended meetings and discussion groups on topics of interest to teachers, principals and administrators.

These covered subjects like lay and public relations, teacher welfare, instruction and finance.

In addition, a workshop was held for local education association leaders based on planning the year's program for the local group during NEA's centennial celebration.

The 100th anniversary, to be observed in 1957, and news of progress



Fabian Bachrach



Buford



Brown

on the NEA Education Building under construction in Washington, also occupied the spotlight at some of the meetings and discussion groups.

During the convention, conferees had a chance to see a preview of the special NEA centennial film, *A Desk for Billie*, based on the life of Billie Davis.

Other NEA affiliates scheduling meetings in Portland at the same time as the NEA conference included the Educational Policies Commission, Legislative Commission, National Commission for the Defense of Democracy Through Education, National Commission on Safety Education, National Commission on Teacher Education and Professional Standards, Committee on Tenure and Academic Freedom, Committee on Tax Education and School Finance.

The following organizations met jointly with representatives of NEA during the six-day meeting: American Legion, American Library Association, American Medical Association, American Teachers Association, National Congress of Parents and Teachers, Magazine Publishers Association.

Providing musical entertainment at the convention were the Portland Symphonic Band and the Choir of North Bend, Ore., High School.

Teaching Aids Conference Features Demonstrations

AUSTIN, Texas.—A three-day University of Texas instructional materials conference, held here in June, featured demonstrations of "how-to-make-it" techniques.

The thirteen demonstrations included art materials and techniques, bulletin boards and mounting, displaying scientific specimens and object materials, feltboards in science and social studies, minor repairs of

A Decade of Lunches from Uncle Sam



The National School Lunch Program celebrated its tenth anniversary this summer, as a giant cake making note of the occasion was presented to President Eisenhower by Jimmie Adcock and Irene Cromer, sixth and seventh grade students at Fairview Elementary School, Fairfax County, Va., in behalf of America's school children. At left is their principal, Todd Shirley. True D. Morse, undersecretary of agriculture, introduced them to the President.

equipment, motion picture making, opaque projection and techniques, overhead transparencies and handmade lantern slides, photographic slides and filmstrips, radio-TV in the classroom, silk screen process, tape recordings and telecasting techniques.

Conference participants also saw exhibits of the latest audio-visual equipment of fifteen firms.

Principal speaker for the conference was Paul W. F. Witt, professor of education at Columbia University's Teachers College, specializing in audio-visual education.

L. D. Haskew, University of Texas vice-president and College of Education dean, greeted the conference at the opening session. Ernest Tie-mann, Visual Instruction Bureau director, presided. Charles Dent, associate professor of elementary education, presented the conference orientation.

Sectional meetings were held during the conference on the use of instructional materials in classrooms, individual schools, school districts, area or regional and state programs.

Study All Post-HS Ed, Ike Urges Committee

WASHINGTON—President Eisenhower has requested his Committee on Education Beyond the High School not to limit themselves to a study of college problems and the needs of the student who is on his way to a higher education.

He urged them to give attention to the needs of all who have completed secondary schooling, whether they plan to attend trade school or plan no college career at all.

For the latter, the President asked the Committee to shape a satisfactory program of adult education.

The Committee is planning a series of regional conferences throughout the United States comparable to the state and local conferences held preliminary to the White House Conference on Education held last winter.

For the expense of such conferences, and other activities related to the achievement of the objectives set forth by the President, the Committee needs more money than it

has to spend.

Sen. H. Alexander Smith (R.N.J.) has introduced a bill asking Congress to make \$800,000 available for the formation of state committees to study college problems.

New York, Hagerstown Plan Closed Circuit TV

Two city school systems, New York and Hagerstown, Md., recently announced utilization of closed circuit television for instructional purposes.

A high school television studio has been included by school planners in New York as part of a proposed \$105 million school building and planning program for 1957.

The studio, which would be part of the new George Westinghouse Vocational High School in Brooklyn, will broadcast lectures and other educational programs over closed circuits within the school system.

It will also be used to teach students production and technical aspects of TV, according to Associate Superintendent of Schools, David H. Moscowitz.

In charge of the program will be a staff drawn from the board of education's radio station, WNYE.

Potential high

Mr. Moscowitz declared that if New York ever receives a television channel for city use, the high school television studio could then broadcast educational programs for the general public, as WNYE and the city's radio station, WNYC, do now.

Meanwhile, Hagerstown, Md. has announced a project using closed-circuit TV throughout its school system.

According to William M. Brish, superintendent of schools, "the program is designed to improve the quality of education and to test ways of dealing with the shortage of qualified public school teachers and of adequate school facilities."

Announcement of the system was made at a luncheon sponsored by the local Chamber of Commerce last month.

The installation of a large-scale, closed-circuit television system in two secondary and six elementary

No substitute for good teachers:

Experts Find Teacher Aide Plan Helpful, But No Cure for Shortage

WASHINGTON—"The teacher aide idea has merit; if properly used and safeguarded it could be made most fruitful in the improvement of instruction. But, as an effective answer to the teacher shortage or the classroom shortage, or as a means of reducing the number of qualified teachers our schools ought to have, it is of dubious value."

Thus, in an editorial conclusion based on an analysis of the Bay City, Mich., teacher aide experiment, T. M. Stinnett, secretary of NEA's Commission on Teacher Education and Professional Standards, expressed the hope that there might be wide-spread use of this type of experiment, designed primarily to improve instruction, rather than replace teachers.

The analysis of the Bay City test appeared in the June issue of *The Journal of Teacher Education*, in which seven specialists in different areas of education studied the plan, and wrote their opinions.

These specialists were Charles B. Park, director, Cooperative Studies for the Better Utilization of Teacher Competencies, Central Michigan College, and director of the Bay City test; Lucille Carroll, classroom teacher, Wooster, Ohio; Francis Chase, chairman, Department of Education, University of Chicago; James Hymes, Jr., professor of education, George Peabody College for Teachers; Dorothy McCuskey, professor of education, Bowling Green State University; G. E. Rast, superintendent of schools, Westport, Conn., and P. G. Rulon, professor of Education, Graduate School of Education, Harvard University.

Dr. Chase, in describing the experiment, observes, "There is little to support either the exaggerated hopes or the aggravated fears which the project has aroused; one has to

schools inaugurates a five-year program which begins in September and within 2 years will extend to 47 schools and 18,000 pupils.

This joint effort by school, industry, and professional associations consists of a comprehensive program for classroom instruction and teacher training, as well as research into the effectiveness of the study.

look elsewhere for the source of the heat that has been generated."

The experiment itself was launched four years ago through a grant from The Fund for the Advancement of Education, in an attempt to meet both the classroom and teacher shortage in Bay City.

The general plan employs the use of one professionally-qualified teacher for some 48 to 55 students, assisted by someone who has not been prepared as a teacher but selected because of an interest in children. This "aide" presumably performs "non-instructional" duties.

Independent study

The report in the *Journal* is an attempt to get an independent appraisal of the experiment for the guidance of the profession and the public.

The six "investigators" were selected jointly by the commission and the Bay City directors from the following areas of education: child psychology, school superintendency, teacher college administration, educational experimentation, curriculum development and classroom teaching.

Each of the six visited Bay City at a different time and wrote an independent appraisal of the project in terms of his own area of specialization. The editors of the *Journal* and the directors of the experiment agreed in advance that they would not seek in any way to influence the direction of the study or the content of the final six reports.

The resulting reports, published as submitted by the authors, present a wide range of reactions to the first-hand observation of the teacher aide

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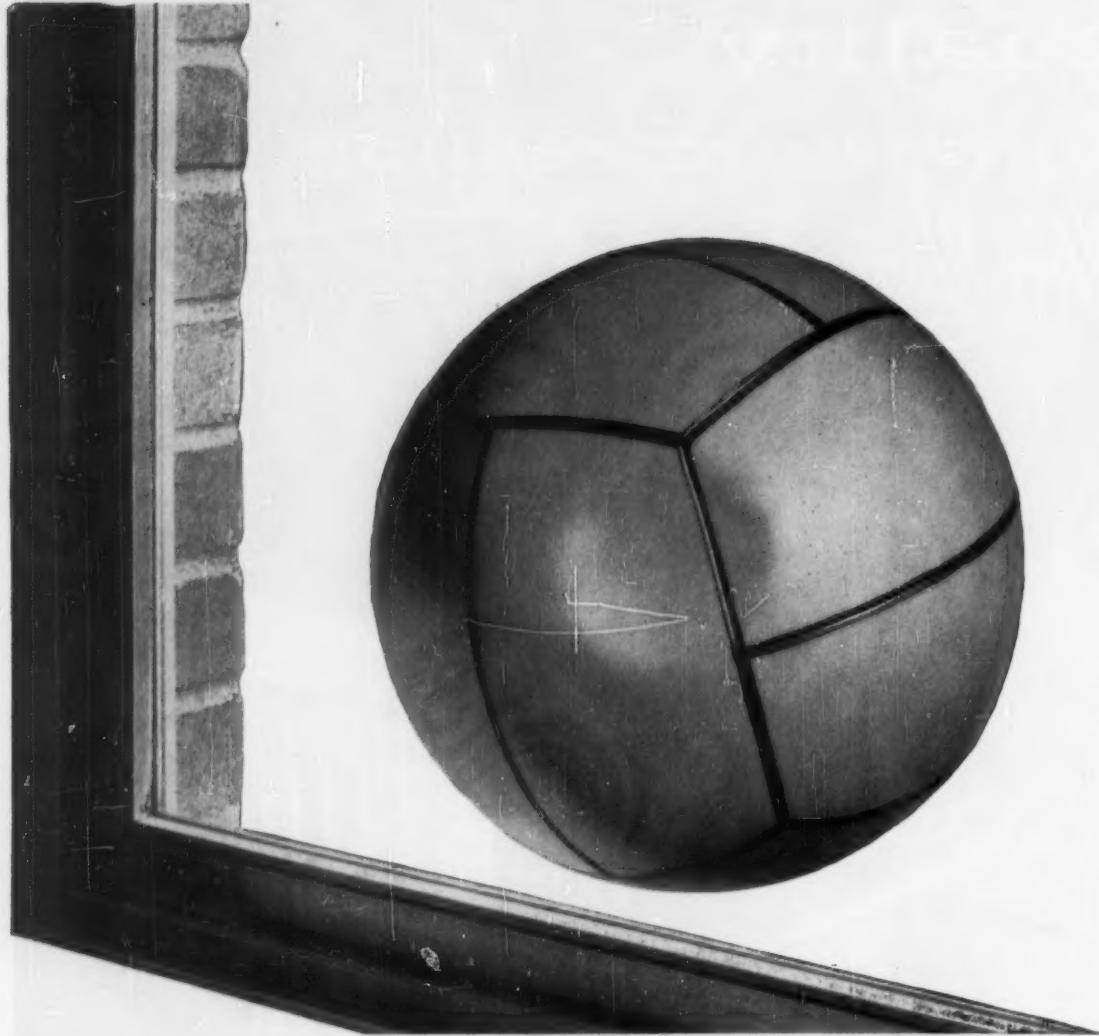
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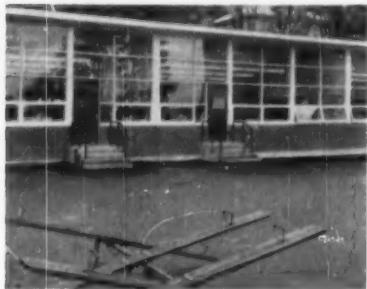
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Ainsworth School, Portland, Ore. Architect: Raymond Kermit Thompson, Portland.

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August, 1956

program. However, there is a noticeable common thread throughout and a similarity of reaction. Each of the following seven points was cited independently by a majority of the specialists.

1. Bold experimentation in education is needed, and the profession should welcome any serious research in the basic areas of curriculum, procedures and organization.

2. The Bay City experiment, formally titled, *A Cooperative Study for the Better Utilization of Teacher Competencies*, is not "real" research or a "real" experiment in the scientific sense of the word.

Appraisal is complicated by the fact that the study does not deal primarily with identifying, increasing or releasing teacher competencies but with the use of teacher aides.

3. Generally, the professional teachers involved in the experiment view teacher aides as desirable emergency measures only. As an emergency expedient the plan seems to be working. But teacher aides do not reduce overcrowding nor do they cure bad teaching.

Mechanical teaching

4. Teaching in the observed classrooms tended to be mechanical. If education is conceived as assignment, memorization and examination only, then the plan may work.

5. The professional teacher needs contacts with pupils in all aspects of the classroom work, even drill and checking papers, to see where mistakes are being made, correct errors at their source and attempt to avoid possible failures.

Teacher aides are not really teacher aides but pupil aides, and the experiment, therefore, is not operating so much to relieve the teacher of non-professional duties as it is to make the aide another teacher in the classroom. Thus the Bay City plan is simply a new idea for preparing teachers.

6. Why not maintain desirable class size but provide staff clerical assistance in a school to assist all teachers?

7. Since the experiment has one more year to run, no final evaluation

SPOTLIGHT

is as yet available.

In the introductory editorial certain other facts are pointed up, among them that the basic idea of teacher aides is not new in the United States.

"The teacher aide idea, like some others," it says, "is often labeled as a 'bold new approach' and, like some others, it is already of old time. It is but a variation of the Dame School and Lancastrian Systems."

In conclusion, Dr. Stinnett's editorial asks, "Why not experiment with the teacher aide idea in a normal size classroom to ascertain if it can be fruitful in improving the quality of teaching? Why not authorize experiments with clerical helpers for teachers, not aides?

"Why not experiment with a team of unassigned, qualified teachers in a building to serve as substitutes, to provide harassed and overloaded teachers with rest periods during the school day and to perform all of the duties the aides can perform plus many more? The cost would not be more—probably less.

"The plain truth is" Dr. Stinnett continues, "the Bay City plan is not a teacher aide plan. It is a pupil aide plan. . . . And, please, could some method be devised for identifying 'professional' and 'non-professional' duties of teachers? These terms are used frequently and loosely. But the dividing line is extremely difficult to locate."

Boston TV Viewers Take Anthropology in Livingrooms

BOSTON—Television viewers in the Boston vicinity will be able to take a course in the arts and crafts of primitive peoples this fall—in their own livingrooms.

John O. Brew, director, Harvard's Peabody Museum of Archaeology and Ethnology, will give the course—"a study of the material culture of primitive man including hunting, fishing, navigation, textiles, ceramics and metallurgy."

Native tools and weapons from all parts of the world, selected from the Museum's large collection of objects,

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photographs and movies, will illustrate the talks.

The class is expected to meet each Monday night in the main studio of WGBH-TV, Cambridge, and home viewers will see the course as it actually takes place on Channel 2.

WGBH-TV is a noncommercial educational station operated with the advice and cooperation of the Lowell Institute Cooperative Broadcasting Council.

Students in the studio will be regularly enrolled in University Extension, and their work in the course may count as credit toward the Adjunct in Arts degree at Harvard.

They will pay the usual course fee. Home viewers will not be eligible for credit in the course, and, of course, will pay no fee.

The Lowell Institute Cooperative Broadcasting Council was formed in 1946, to provide educational broadcasting for Greater Boston, under the leadership of Ralph Lowell,

Lowell Institute trustee.

University Extension courses have been broadcast since 1951 on WGBH-FM radio, but this is their first appearance on television in Boston.

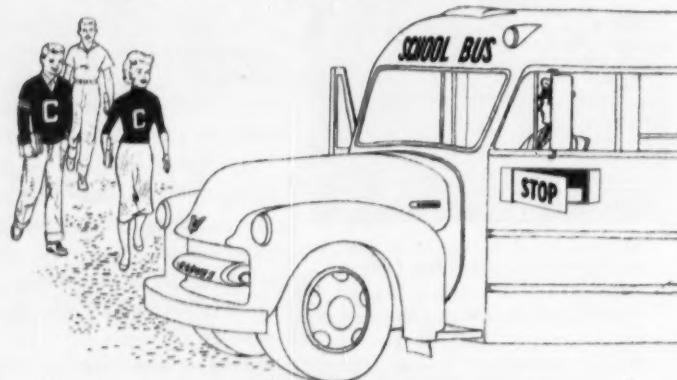
Mass. Teacher Training Plan "Success," Inspires Adaption

CAMBRIDGE, Mass.—A cooperative program by Harvard University and Massachusetts education leaders, aimed at recruiting more liberal arts graduates into public school teaching, has proved its worth, according to its initiators, and is being adapted to the needs of other areas in the United States.

After one year's experience with the teacher-training plan in operation, "We're now ready to state that the program is worth trying in many other regions," declares Dean Francis Keppel of the Harvard Graduate School of Education.

School authorities report that the program has proved its worth in the schools of six communities—Belmont, Brookline, Concord, Newton,

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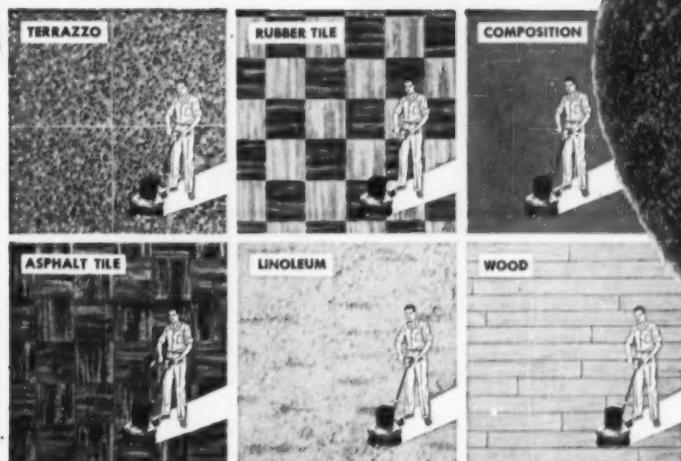
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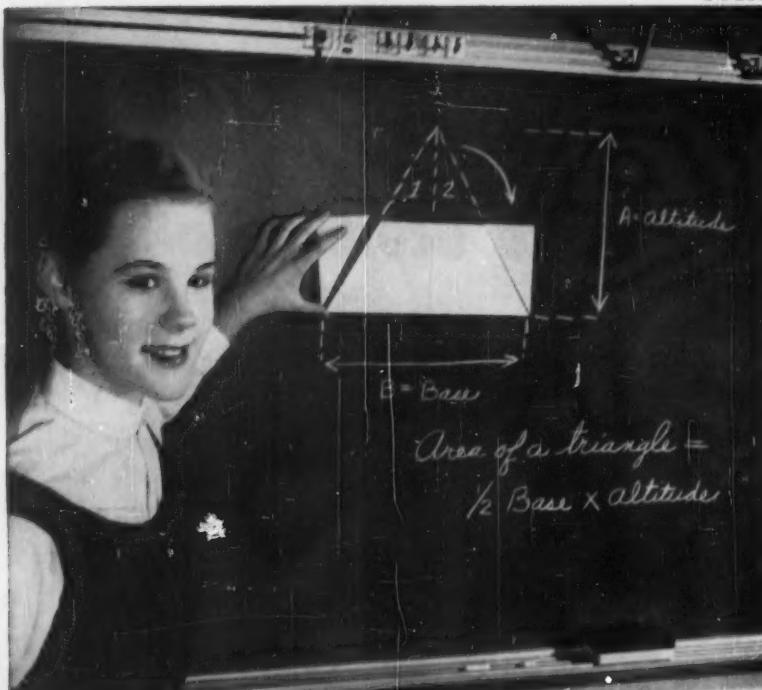
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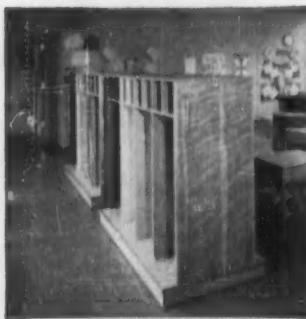
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Weston and Winchester. Three more—Lexington, Natick and Wellesley—will join next fall.

"Our pilot experiment indicates that colleges and school systems can get together in a new way to help the nation meet its gigantic and growing shortage of teachers," according to Dean Keppel.

In several areas, similar plans are already being drafted, he said. One will begin soon in Baltimore, another in Charlotte, N. C. An education team from Texas came to Massachusetts recently to study the plan's success here.

In the first year's trial in Greater Boston, about 40 men and women from colleges all over the country made up the training group.

Pairs of interns

They took an intensive summer course in teaching techniques at a special summer school in Newton. Then they were divided into pairs of "interns."

One of the two interns spent the fall at Harvard; the other taught under supervision—and earned \$1,500 for it—in a public school. In the spring, the roles reversed.

The results are now in, and can be listed, according to Dean Keppel.

- 90 percent of the first group of interns made the grade, the majority "excellent," the rest "solid."

- School superintendents say the plan is working well. Despite their limited experience, many interns have been hired as regular teachers for next year in the large school systems in which they trained.

- Not only will three new school systems join the program, but there will be 30 more interns as well next fall.

- New light has been thrown on an old and troublesome problem in American teacher training—how much general education, how much "methods"?

- Ten Massachusetts colleges are cooperating closely in recruiting, and are discovering new ways to bolster and refine public education.

The plan began as a "cooperative

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Start to finish, the Hammond Organ enlivens the proceedings. Any faculty member or student who plays the piano can quickly learn to play the Hammond. And it provides a vastly greater range of glorious tones and tone combinations than any other comparable organ. Can be easily moved from room to room. No installation, just plug in.



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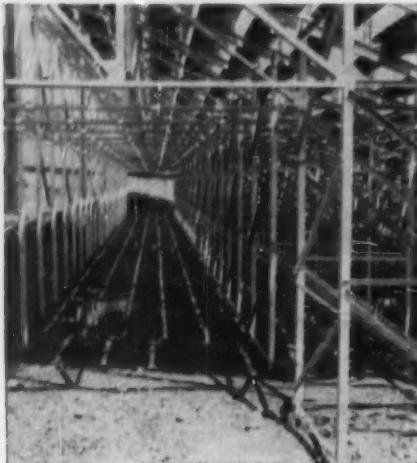
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experiment," with financial backing from the Fund for the Advancement of Education.

Cooperating with the school systems and the Harvard Graduate School of Education are these colleges: Amherst, Harvard, Holy Cross, Massachusetts Institute of Technology, Mount Holyoke, Radcliffe, Smith, Wellesley, Wheaton and Williams.

"We are giving liberal arts graduates a direct route to teaching careers," Dean Keppel explains. "At the same time, they are attracted by the financial support the schools offer."

Newton Superintendent Harold B. Gores, calls this a healthy trend.

"The internship plan gets the school system into the business of training its own teachers."

He believes the program holds great national promise, as do other superintendents. All say the program is highly successful. Here are some other comments:

"Well repaid"

• *Charles R. Thibadeau, Belmont:* "We have been well repaid. The townspeople and the school committee approve. We don't usually hire married women teachers, but one of our interns did so well that we will hire her despite the rule.

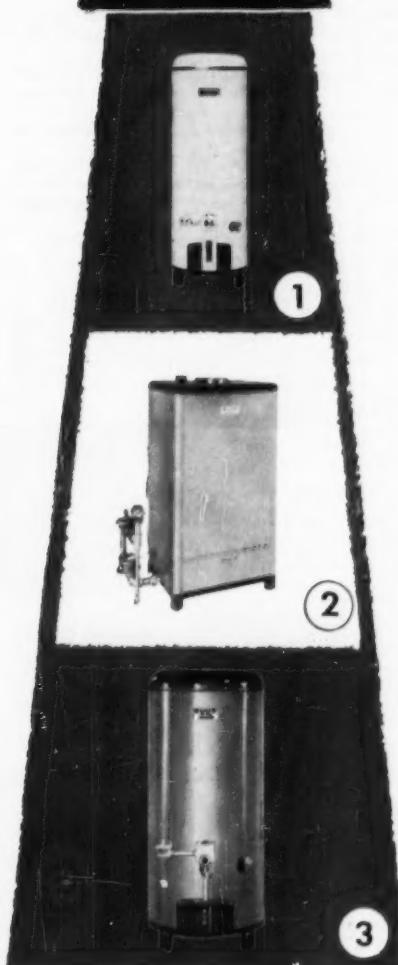
"We're not kidding ourselves, however; we cannot solve the teacher shortage all alone. But we do think we are setting a pattern which has great potential."

• *Harry V. Gilson, Winchester:* "The interns worked their heads off. They are able, personable, intelligent. In our view, the recruiting is the best part of the program.

"We will be hiring two of our interns when they graduate, even though we usually require more experience. We would have hired two more; another school system got one, the Army the other."

• *Angelo Giadrone, Concord:* "The thing that pleases me most is that we are tapping a reservoir which, without such a program, we might not be able to tap—the pool of

Every School Needs **3** Water Heaters!



Whether you are modernizing your present hot water system, or equipping a new school, Ruud gives you the most perfect hot water system at *bedrock* cost. There's a Ruud water heater specifically designed for each of the three big jobs in *your* school:

RUUD ALCOA® ALLOY FOR THE HOME EC DEPARTMENT:

Simultaneously supplies 180° extra-hot water for the automatic clothes-washer and dish-washer—AND 125° regular hot water for other laboratory uses. Ruud Laundry-Rated models deliver enough extra-hot water to the automatic washer for load-after-load operation.

RUUD MULTI-COIL FOR GENERAL USES:

The Ruud Multi-Coil heats water for tanks supplying showers, lavatories, and general use outlets—all general-purpose demands. Ideal for heating swimming pools and water towers.

RUUD Two-temp SANIMASTER FOR THE CAFETERIA:

Whether your dishes are really and truly sanitized depends on the final 10-second rinse cycle in your dishwashing machine. *It's the vital 10 seconds!* For maximum bacteria-kill you *must* have 180° water at the proper flow-rate for the *entire* 10-second period.

Ruud Sanimaster gives you 180° hot water—at the proper flow-rate—to sanitize and air-dry dishes . . . AND, at the same time from the same tank, plenty of 140° general-purpose hot water for other cafeteria uses.

Eliminate chance-taking! Protect the children—and yourself! Be *sure* with a Ruud Sanimaster. Equipped with solid Monel or solid Alcoa Alloy storage tank as you select—both rust-proof and long in life.

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 Send me further information on the Ruud Sanimaster
 Multi-Coil _____, Alcoa Alloy _____
 Have a Ruud representative call on me

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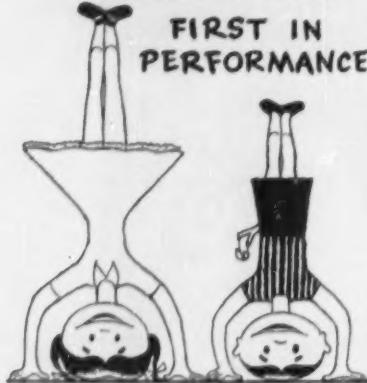
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Claridge is fully equipped to meet the most exacting requirements in Chalkboards and Cork Bulletins.



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SPOTLIGHT

highly able liberal arts students."

The role of the participating colleges is to consult with school systems, to consider the place of education courses in a liberal arts college and to help steer talented students into careers in education.

What have been some of the problems which have arisen?

Harvard has had to gain experience in helping beginners over crisis periods and related difficulties, like classroom control. These don't reach their full force in an ordinary program of apprentice teaching.

The schools, too, face difficulties in providing maximum assistance to interns, for the schools are not usually as much involved in the training process.

"Everybody has had to put in tremendous amounts of energy in keeping the lines of communication clear," Dr. Shaplin adds.

"As the program expands, we shall have to put in more."

To Dr. Gilson in Winchester, the most serious question has been the "mechanics of teaching."

This must be expected with inexperienced teachers trained primarily in subjects rather than in techniques, he points out.

"In general, the higher the grade, the easier the intern gets along," Dr. Gores says. "That is natural enough. In the higher grades, knowledge of the subject takes on relatively more importance than the specific teaching techniques."

Ga. Chamber of Commerce Sponsors Teacher Contest

ATLANTA, Ga.—The state Chamber of Commerce has begun sponsoring an annual event in Georgia to give impetus to teacher recruitment and raise the prestige of the teaching profession—selecting an annual Teacher of the Year.

Every school system participated in the 1956 contest, sending its Teacher of the Year, sponsored by a local chamber, to the district finals. There they were judged by criteria set by the Georgia Education Asso-

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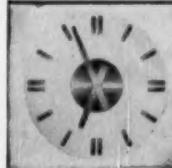
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- Not affected by other equipment on lines.
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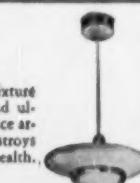
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Plugs into a pre-wired, permanently installed wall outlet. Standard sizes—10", 12", 15"



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Blue Blazes

Synthetic Cleaner now contains HCP!

BLUE BLAZES, the powerful synthetic cleaner, has been made even more powerful by the addition of HCP. The HCP ingredient activates BLUE BLAZES to provide instantaneous penetrating action.

How does it work? BLUE BLAZES, with HCP, immediately attacks dirt, oils, and any other foreign material that may be on the floor.

It penetrates grime, surrounds the particles, lifts them off the floor, and holds them in suspension until removed with a wet pickup vacuum, squeegee, or mop.

As gentle as rain water. It's completely safe, too. Though it overpowers dirt and grime in an instant, BLUE BLAZES with HCP is chemically neutral (pH of 7 in solution).

Non-Ionic. Because it is completely non-ionic, BLUE BLAZES with HCP is able to pick up both positively and negatively charged dirt particles. Also, it leaves no film or other residue which would help create static charges which attract and hold dirt particles to the floor.

Works in hard water or soft. BLUE BLAZES with HCP works in any kind of water . . . cold or hot, hard or soft. This makes it ideal for all phases of floor maintenance.

Because BLUE BLAZES is a free rinsing cleaner, no hard water scum or soap residue is left behind to dull the beauty of your floors.

You have to see it to believe it! Ask your local MULTI-CLEAN man to demonstrate how quickly BLUE BLAZES with HCP will clean your dirtiest floor. You'll be under no obligation whatsoever.



Scrubbing Machines
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Method

The combination of the right Multi-Clean Equipment and Materials with the correct procedure.

MULTI-CLEAN PRODUCTS, INC., Dept. SE-26-86
2277 Ford Parkway, St. Paul 1, Minnesota

I'd like to see for myself what BLUE BLAZES with HCP can do for my floors. I understand demonstration will be free and I'll be under no obligation.

Send information on care of: Concrete, Wood,
 Asphalt Tile, Terrazzo, or _____ floors.

Name _____ Title _____

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Why Faucets Leak

Faucet washers, when fastened with TOO LONG or SHORT screws—as in "9 out of 10" replacements by best mechanics—quickly work loose, destroy themselves!

"SEXAUER" finds the answer—after 34 years research

Now, NEW Pat'd. "Sexauer" SELF-LOCK screws, with expanding NYLON PLUG imbedded in the threads, fasten and lock at correct depths AUTOMATICALLY, hold faucet washer firmly. Made of rust and corrosion resisting Monel, heads won't twist off, screw slots won't distort; they can be used over and over.

When installed with NEW Pat'd. "Sexauer" EASY-TITE faucet washers, this combination outlasts past faucet repairs "6 to 1"!

EASY-TITES are made of super-tough, pliable duPont compound (neither rubber nor fibre) to withstand super-hot water and make tight even on worn, corroded seats. They are further reinforced with a vulcanized layer of Fiberglas to resist distortion and splitting from shut-off squeeze.

The hidden costs of faucet leaks!

As authenticated by Hackensack, N. J. Water Co. and American Gas Association, stopping just ONE pin-hole (1/32") size leak can reduce water waste 8,000 gal. monthly. Stopping a hot water faucet "drip" can result in water and fuel saving of over \$7.58 QUARTERLY—plus material and labor costs and costly fixture replacements!

That's why thousands of Government Agencies, Housing Projects, Hospitals, Colleges, Schools, Manufacturers, Hotels, Realties and Utilities—country wide—look to "SEXAUER" Technicians skilled in plumbing maintenance know-how. They are trained to determine stock levels thru complete SURVEYS of actual fixtures in service and to install stock systems that avoid over-stocking and shortages.

NEW SELF-LOCK SCREWS and EASY-TITE faucet washers are just part of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW, 126 pg. Catalog H available and gladly consult with you regarding your plumbing maintenance problems without obligation. Write today!

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SPOTLIGHT

ciation, Atlanta.

These included educational training and professional community status.

One winner was chosen from the ten district finalists for the state award by a committee of three Georgia Supreme Court judges.

In March, the 200 local winners were honored at an Atlanta luncheon by over 400 businessmen. Each of the ten district finalists received an aluminum statuette.

At the state chamber's annual dinner, the Teacher of the Year received her citation and a statuette named "Alf," after chamber leader A. L. Feldman.

Economic Cooperation Sets Scene for Texas Meeting

AUSTIN, Texas—Cooperation between educators and representatives of agriculture, labor and management set the scene for a meeting here in June, called to chart better

ways to teach Texas schoolchildren fundamental and current American economics.

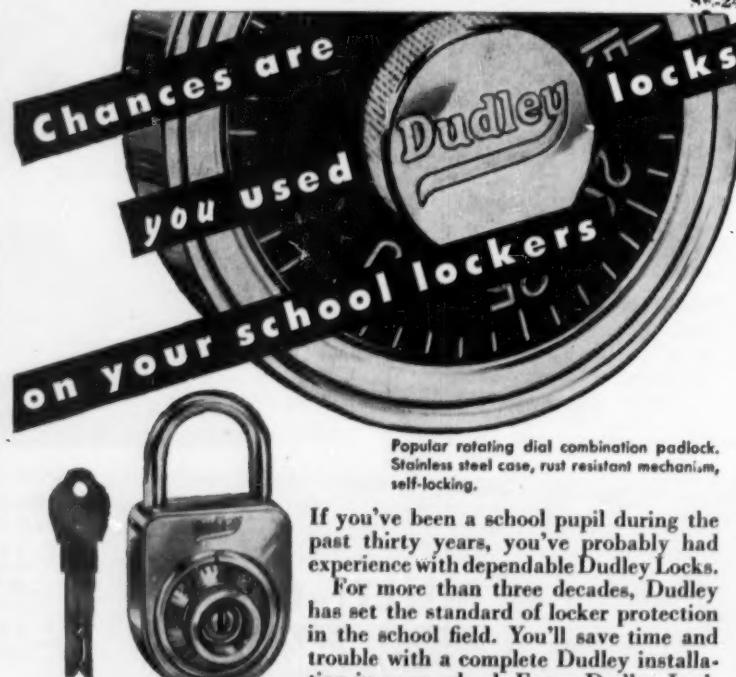
J. G. Umstattd, University of Texas secondary-education professor and Texas Economic Education Council president, supervised the conference, directed toward development of "economic literacy" in Texas public school youth.

"I consider this just as important a problem as that of manpower for science," Dr. Umstattd declared. "In fact, economic theory is perhaps the more important because it gives direction to the efforts of science."

At the opening general session, addresses were delivered on "Recent Trends that Affect Our State and National Economy."

Afternoon group meetings considered "How Economic Understanding Can Be Gained Through the Elementary and Secondary School Curriculum."

Dr. Umstattd reviewed the formation of the Joint Council on Economic Education in the U. S. soon after World War II and organization of



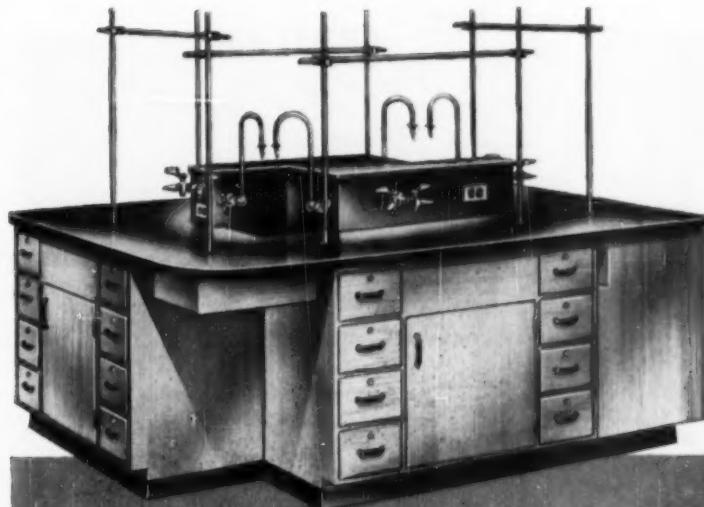
Popular rotating dial combination padlock. Stainless steel case, rust resistant mechanism, self-locking.

If you've been a school pupil during the past thirty years, you've probably had experience with dependable Dudley Locks.

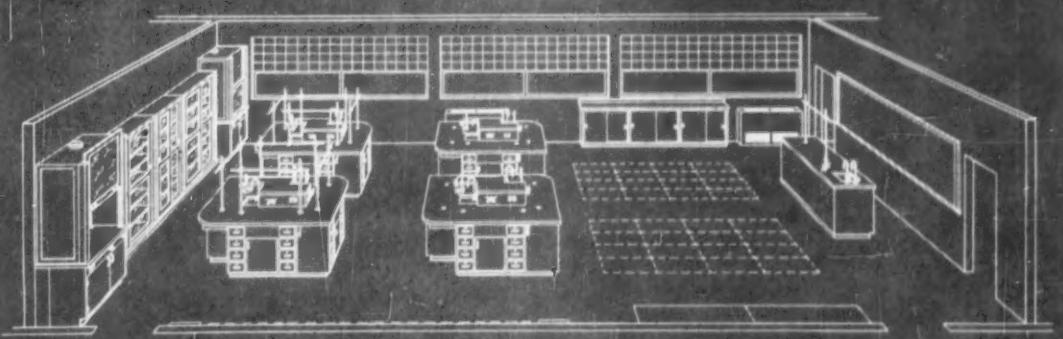
For more than three decades, Dudley has set the standard of locker protection in the school field. You'll save time and trouble with a complete Dudley installation in your school. Every Dudley Lock carries a 2-year warranty. Write for catalog folder.

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**Now-
handle $\frac{1}{3}$ more
science students**



in the same space...at lower cost per student

If you're faced with the problem of more science students than your present classrooms can handle, you can increase room capacity as much as *one-third*—without increasing room size!

The new Kewaunee 8-student "Pittsburgh" Combination Science Table is designed for just such a situation. Four of these tables, for example, will efficiently handle 32 students in the same size room now handling only 24 with six conventional 4-student tables. And if two students share each drawer, eight classes a day can be handled.

Cost per student is lowered, too. Fewer tables are required—and more students are instructed each period.

This is typical of how Kewaunee laboratory planning gets maximum use from minimum space . . . why Kewaunee equipment costs less in the long run.

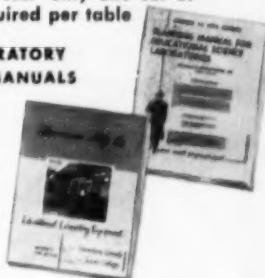
Whatever *your* school laboratory needs may be, get *all* the facts about Kewaunee quality. In the years ahead, you'll be glad you did.

Special Features

- Unusually compact—only 7'8" x 5'10"
- 32 drawers with locks—4 cupboards
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- 2 open corners—2 rod storage compartments
- Minimum plumbing cost—only one set of service stub-ups required per table

FREE LABORATORY PLANNING MANUALS

Mail coupon below for free 44-page catalog of Educational Laboratory Equipment and 48-page Planning Manual. New concept of equipment design and classroom arrangement.



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DESIGNED FOR STRENGTH and BALANCE—18 gauge steel tubing, 20 gauge stamped steel seat, supports, etc. Won't tip or bend.

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SPOTLIGHT

the Texas Economic Education Council in 1951.

"In Europe during World War II and later, it was noted by a number of leading Americans that Russian soldiers could sit down and discuss their economic theory with both intelligence and enthusiasm, while the same was far from true of the American soldiers with respect to the economic system they were fighting to protect as the American way," recalled.

Executive committee of the Texas Economic Education Council includes Dr. Umstated; H. L. Foster, Longview First National Bank director—vice president, and the following members-at-large: Lan Hewlett, Lockhart, science teacher; J. V. McGoodwin, San Antonio, Southwest Endowment Corporation president; Fred H. Schmidt, Austin, Texas State Council secretary; and Lewis B. Taylor, Austin, Vocational Agriculture Teachers Association of Texas executive secretary.

Ella Quante Hancock of Austin is secretary-treasurer. Stephen L. McDonald, University of Texas assistant professor of economics, is consulting economist.

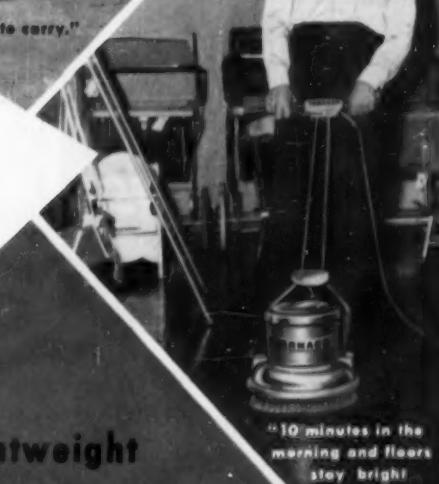
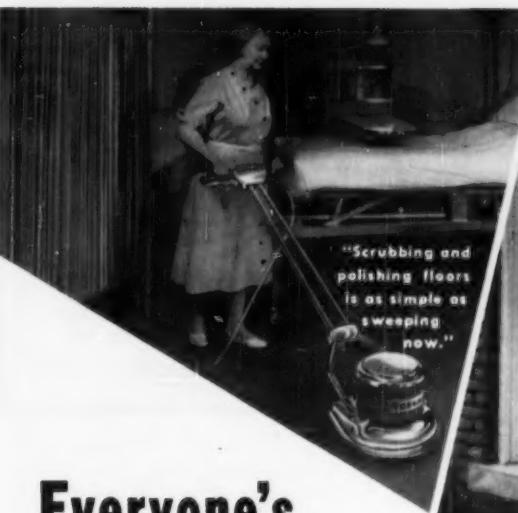
Library Aid Act Called Proof of Faith in Education

WASHINGTON—Educators and librarians have hailed the new library Services Act as a great boon to American education.

The law, allotting \$7.5 million annually for five years to the states on a matching basis to extend public library services within each state, was supported by several educational, business, veterans, farmers, labor and library associations.

John S. Richards, librarian, Seattle, Wash., Public Library, and president, American Library Association, declared that Americans can rejoice over a significant achievement in promoting the way of life which we all hold dear.

"Rural areas, which presently have no library service whatever, will be enabled to experience the opportu-



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13" LIGHT HEAVYWEIGHT FLOOR MACHINE

heavy enough to do the job, light enough for everyone!

No wonder everyone's talking about this new cleaning marvel.

It saves hours of scrubbing and polishing, leaves floors sparkling bright in a jiffy, reduces operator fatigue, reacts quickly to the slightest touch and it's streamline in design yet durable to take all the knocks of daily use.

One trial run will convince you that you should have this new 13" Tornado Floor Machine.

- **lightweight**
- **powerful**
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ATHLETE'S
FOOT
WITH SANI-MIST
the new
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Makes Foot Baths and
other methods obsolete!

AND PEOPLE LIKE TO USE SANI-MIST, because it "refreshes" their feet. It's so clean and sanitary . . . as personal as your own toothbrush. Kills athlete's foot fungi in 30 seconds with no chance of dilution or contamination.

You buy only the Sani-Mist Solution, the spray dispenser is leased at no charge for as long as you use Sani-Mist. Write today for the name of your Sani-Mist dealer.

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SPOTLIGHT

nities which such services offer—the means for self-improvement and further fulfillment of aspirations common to us all."

Ralph R. Shaw, professor, Graduate School of Library Service, Rutgers University, and ALA president-elect stated that "the effect of this legislation will be far-reaching. The free public library symbolizes educational opportunity in America.

"When we help to provide library services where they do not exist and improve inadequate service, we give evidence to all of the world that America's faith lies in an informed citizenry. This is important in the struggle to maintain America's position as the home of free men in the minds of people everywhere."

L. Quincy Mumford, Librarian of Congress, called the Act "a milestone in this nation's efforts to bring the utility and enjoyment of books to all its citizens.

"In authorizing federal funds to stimulate state library service programs, especially in rural areas, Congress now brings this goal within sight. All of us in library work are pleased and grateful for this recognition of the library's role in a democracy."

Anderson is Associate Dean At NYU's Education School

NEW YORK—Walter A. Anderson, chairman, Department of Administration and Supervision, New York University School of Education, has been named associate dean of the School, Executive Vice-Chancellor Carroll V. Newsom announced recently.

He succeeds Francis C. Rosecrance, who has been appointed dean of the School of Education at Wayne University in Detroit.

A former Minnesota public school teacher, Dr. Anderson served from 1930 to 1935 as curriculum worker and supervisor in the public schools of Minneapolis. Before joining the NYU faculty in 1947, he was general assistant superintendent of the Minneapolis public schools.

Dr. Anderson also has been on the

how PREMIER vacuum machines
cut your labor-time costs



Labor-time takes 90% of your maintenance cleaning costs. PREMIER saves you money because it reduces that time. Here's how:

1. Filters in PREMIER vacuum machines are 3 times larger than others. They needn't be cleaned until the machine is full. When the filter finally does need cleaning, it is easy to lift out, clean and re-install.

2. PREMIER equipment is practically maintenance-free because their special-built motors are well ventilated to run cooler. This means more efficiency and longer life. All Mastervac main motor parts are made by G.E.

3. All PREMIER machines are portable, well-balanced, and easy to use. Designed to eliminate wasted motions, operator fatigue and transportation troubles. The machine does the work . . . and quickly, to give more profit per job.

4. Complete—all models are equipped with standard attachments. Special tools for wet or dry pickup or out-of-the-ordinary jobs are also available.

PLUS THESE OTHER SAVINGS!

5. Low initial cost due to high volume of sales. PREMIER's fine quality engineering design has made it a popular seller for many years.

6. Listed by Underwriters' Laboratories and Canadian Standard Association.

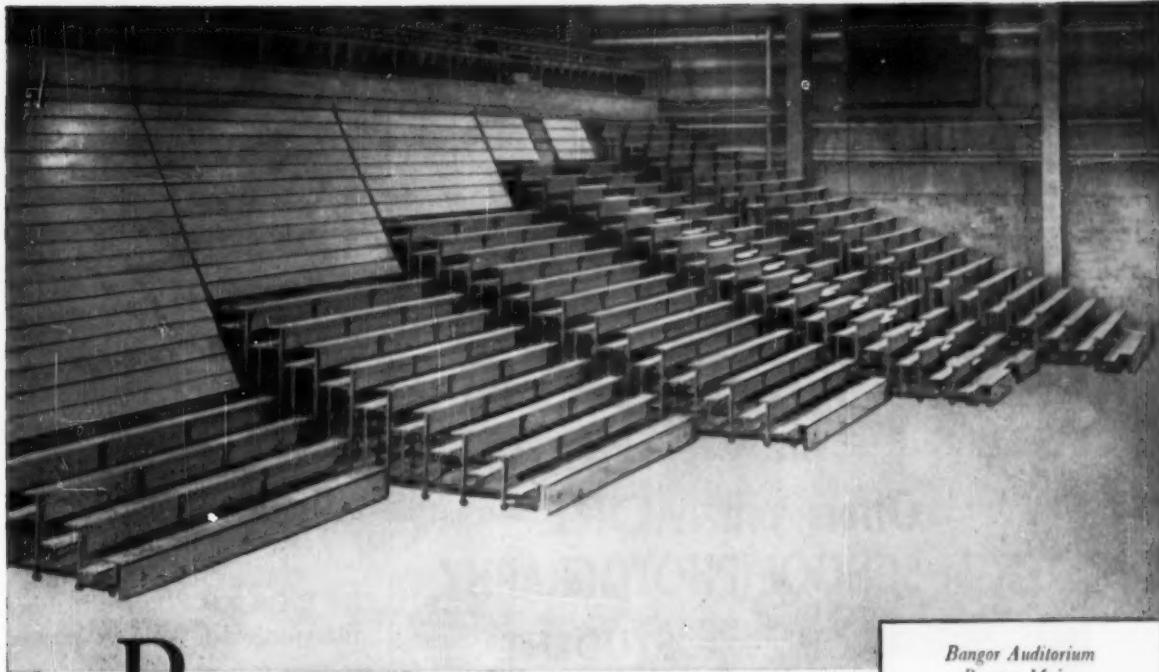
7. Many models and sizes to give you the right machine for YOUR requirement and save you the most money. For complete information about all PREMIER machines including PREMIER floor machines, models and features. Write today to:



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Big Reasons Why *Universal* Roll-A-Way* Bleachers Were Installed In This Big Recreation Center

In selecting the main floor bleachers for this huge auditorium, the architect and building committee set up many rigid requirements. For example:

COMFORT. *Universal* Roll-A-Ways because they provide much more natural foot and leg room than any other leading bleachers. That assures spectator comfort.

EASE OF OPERATION. *Universal* Roll-A-Ways because they open and close easily in both large installations like this (22 rows) and in small installations . . . thanks to large, smooth-rolling wheels with broad faces, plus proper balancing of seat boards, foot boards and understructure.

SAFETY. *Universal* Roll-A-Ways because they have cylinder locks, keyed alike, for locking sections in place

when folded. Folding arms in the understructure are also designed to lock sections automatically in opened position . . . preventing accidental closing of front rows when sections are partially occupied.

MINIMUM MAINTENANCE. *Universal* Roll-A-Ways because they are exceptionally strong and assure many years of trouble-free operation; also easier to clean and keep clean. During closing operations, seat boards and foot boards fold vertically . . . dropping all debris to the open floor for easy sweeping. Nothing is carried back under closed bleachers.

Naturally, with such high scores, *Universal* Roll-A-Ways were specified for this big installation. But they rate just as highly for small installations. Write for free catalog today.

Bangor Auditorium
Bangor, Maine

Architect—Eaton W.
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Size—320' x 146'

Seating Capacity
(maximum) 8,000



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STUDENT IDENTIFICATION CARDS

Unmistakable identification for every student! Student's picture is actually printed on the card. Essential for the proper handling of school activities including athletic events, movies, school dances, entertainments, etc. Used in many communities for proper identification to obtain special reduced students rates in movies, bus transportation, parks, etc.

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SPOTLIGHT

faculties of the University of Minnesota, Teachers College at Columbia, Northwestern University, and Montana State University, where he served as dean of the School of Education from 1942 to 1945.

In addition, Dr. Anderson is a member of several national fraternal and professional organizations and is past president of the Association for Supervision and Curriculum Development of NEA.

From 1952 to 1954 he served as consultant to the New York State Education Department on a study entitled *A Design for Elementary Education in New York State*.

Ed Press Association Holds International Workshop

MANILA, Philippine Islands—An international workshop for editors of educational publications is being held here this month by the Educational Press Association of America.

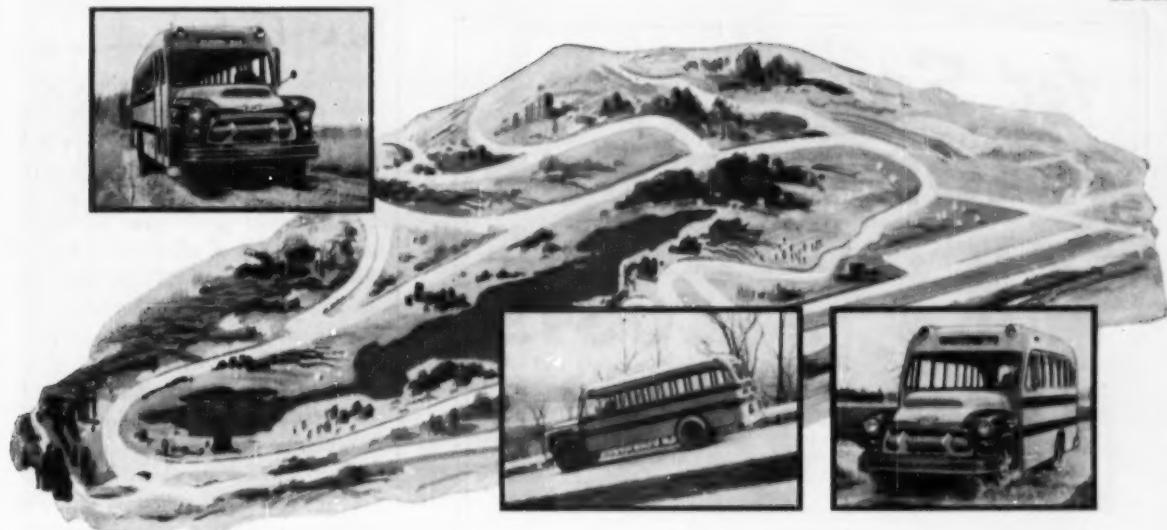
According to EPA President W. Henry Galbreth, editor of *Midland Schools*, Des Moines, Iowa, the workshop "is a pioneer venture intended to bring together a varied and representative group in an effort to promote mutual benefits of a professional nature, and to increase the flow of ideas among teachers of the world through their educational publications."

The World Confederation of Organizations of the Teaching Profession, which will be holding its delegate assembly in Manila the first week in August, is cooperating in promoting the workshop along with the Philippine Public School Teacher Association.

Representatives from national teaching organizations from 31 countries are expected to attend the WCOTP meeting.

Editors attending the workshop will have an opportunity to take part in some of the WCOTP meetings and will hear President Magsaysay of the Philippine Republic address the opening session from the Hall of Representatives, Congress of the Philippines.

Some of the specific topics to be



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Modern, short-stroke V8 power is standard in both new 60-pupil capacity models, optional at extra cost in all others. Power brakes and tubeless tires are included at no extra cost on most models. And all models comply with the most recent National Minimum School Bus Standards. Your Chevrolet dealer will be happy to supply specifications. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

— Name your capacity . . . Chevrolet's got it! —



10802—240-inch wheelbase,
60-pupil capacity body.



8802—240-inch wheelbase,
60-pupil capacity body.



6802—220-inch wheelbase,
48- to 54-pupil capacity body.



6702—194-inch wheelbase,
42- to 48-pupil capacity body.



4502—154-inch wheelbase,
30- to 36-pupil capacity body.



3106 (3116)—Suburban
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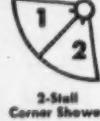
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SPOTLIGHT

covered in group meetings and laboratory conferences during the 18-day workshop include technical and editorial problems, ways the professional content of publications can be improved and how to more effectively report educational trends and developments within the respective countries. Editors also will exchange notes on the availability of editorial services, with a view toward paving the way for increased cooperation among education editors in different nations.

Such services are already available through EPA, a voluntary professional organization, with about 300 member publications in the U. S. and Canada.

G. Kerry Smith, editor, *College and University Bulletin* and executive secretary, Association for Higher Education, NEA, will serve as co-chairman of the workshop with Ricardo Castro, editor, *PPSTA Herald* and the *Philippine Educator*, Manila.

In addition to Mr. Galbreth and Dr. Smith, three other Americans will attend the Manila workshop.

They are Larry Dennis, provost, Pennsylvania State University, formerly of the journalism faculty, Kansas State College; Mildred S. Fenner, editor, *NEA Journal*, and Otto Fokert, specialist in magazine design and production, Chicago.

The Rockefeller Foundation, New York City, has provided a grant to cover travel expenses for the American delegation.

Carleton Urges Research on Why Pupils Ignore Science

WASHINGTON—If we discover what the reasons are that lead 76.5 percent of the nation's eligible high school students to ignore the study of physics; or why 68.1 percent and 27.4 percent fail to study chemistry and biology, respectively, we might be much closer to solving the problem of the shortage of scientists and engineers.

Robert H. Carleton, executive secretary, National Science Teachers Association, recently described the

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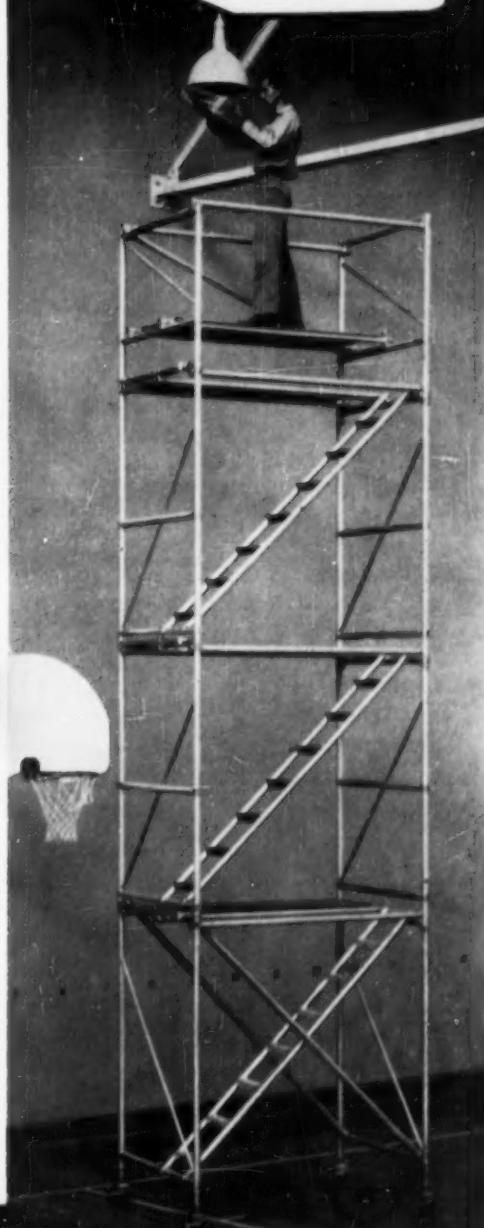
"Two 10 ft. span scaffolds pay for themselves on any school paint job of 6 rooms or more," says Leonard T. Anderson, painting contractor, Turlock, California.

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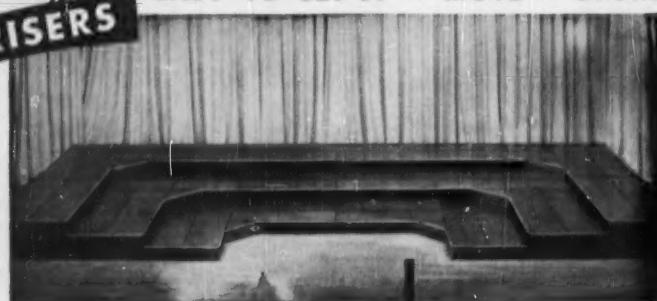
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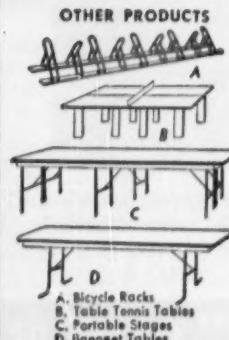
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SPOTLIGHT

need for more research on this aspect before the Subcommittee on Research and Development of the Joint Congressional Committee on Atomic Energy.

Actually, more students of high school age are studying biology, chemistry and physics than ever before in the history of the country, Mr. Carleton said.

But, even at that, there aren't enough to supply the ever-increasing demands of a country going all out on ever-growing programs of research and technology, he added.

Based on the latest U. S. Office of Education data recently published in *The Science Teacher*, official organ of NSTA, Mr. Carleton pointed out that in 1954-55 in American high schools the equivalent of about three out of four students at the 10th grade level were taking biology.

Roughly, one in three students at the 11th grade level was taking chemistry and about one in four students at the 12th grade level was enrolled in physics.

Schools doing well

At the moment and for years to come, the pool of available science students falls far short of the demand; but the high schools of the country are doing a fundamentally good job in filling their science classrooms, said Mr. Carleton.

He denied the commonly heard statement that "only 4.6 percent of high school students today study physics as contrasted with 19.0 percent in 1900".

The base of these computations is the total number of students in the last four years of high school, yet with few exceptions, physics is offered as a 12th grade course in American high schools.

The 1954 enrollment, for instance, in high school physics was 302,800. In 1900 it was 98,846.

There were about six million youth of ages 14-17 in 1900 and about nine million in 1954. Hence a 50 percent increase in population produced a 200 percent increase in physics enrollment.

Instruction in high school chemis-

SHALLOWER than a Piece of Chalk... meets New IES School Lighting Practice!



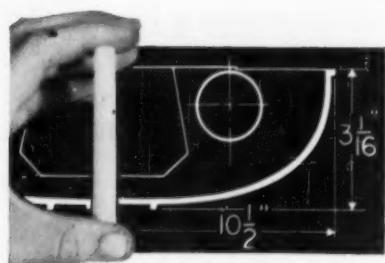
Announcing the New **CAPRI** for Lower Cost School Lighting!

New Low Brightness! Now Benjamin brings you a new twin-lamp fluorescent unit that is shallower than a piece of chalk! Yet, the "CAPRI" meets the new IES School Lighting Practice, including even more stringent brightness control.

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the appearance of school lighting jobs to an extent never before accomplished at such small cost.

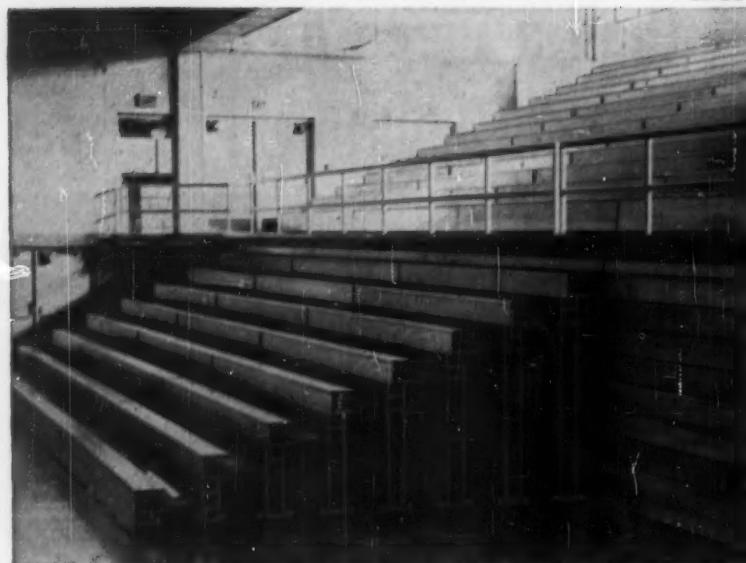
New Low Price! The "CAPRI" triumphs over high school lighting costs, too! Despite its modern appearance and engineering that meets IES Practice, it is one of the LOWEST PRICED pendant-type fluorescent units on the market today. Use it with 40-w Rapid Start or 96" Slimline lamps. Sliding hangers help you circumvent pipes and duct work. Unique air circulating vent at bottom of unit keeps dirt accumulation to a minimum. Benjamin Electric Mfg. Co., Des Plaines, Illinois.



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SPOTLIGHT

try is reaching proportionately about thirteen times as many of our youth of ages 14-17 today as in 1900, the science leader said.

He feels that statistics, revealing what percentage of students who are eligible to take these courses at the grade level do so, are a lot more revealing than previous figures based upon total school enrollments.

Using the grade level enrollment at which the course is usually given as the base, the percentage of students enrolled in these courses in the fall of 1954 shows an encouraging 72.6 percent for biology, 31.9 percent for chemistry and 23.5 percent for physics.

Based upon these percentages, 1,293,000 pupils studied biology in 1954; 432,700 studied chemistry and 302,800 were enrolled in physics.

But, today, that just isn't enough, Mr. Carleton concluded.

"A good part of our answer, though, might be in finding out why three-quarters of our 12th grade students are bypassing physics, nearly 70 percent of our 11th graders skipping chemistry and nearly a third of our 10th graders forgetting about biology."

MCA Predicts Scientist Shortage of $\frac{1}{2}$ Million

WHITE SULPHUR SPRINGS, W. Va.—Here are some more figures to add to the growing list of statistics on the scientist-engineer shortage—this time by the Manufacturing Chemists' Association.

The nation faces a shortage of 457,000 scientists and engineers by 1965, according to a study made public here today by MCA.

More than 700 chemical industry executives attending the 84th annual meeting of MCA were told that the chemical industry alone will have a "probable shortage" of 93,000 scientists and engineers within ten years.

MCA conducted the independent study, "to develop new estimates of the significance of the technical manpower shortage based on latest available figures and to interpret these in

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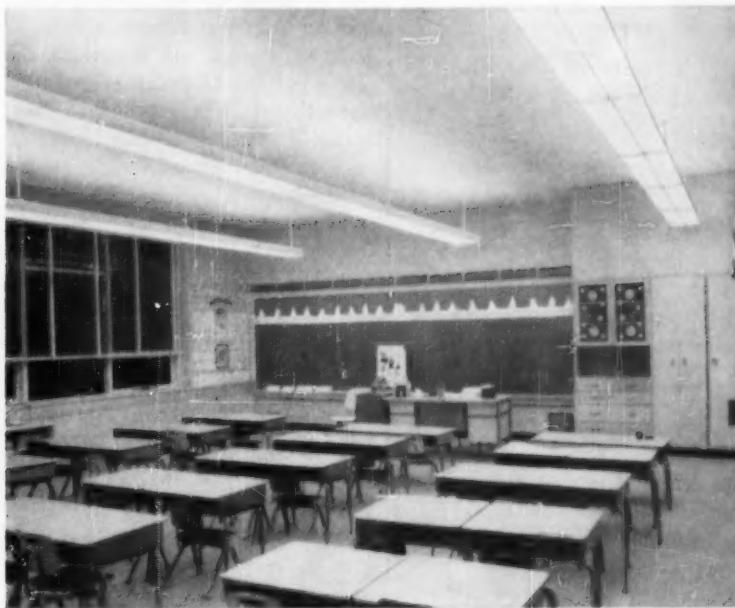
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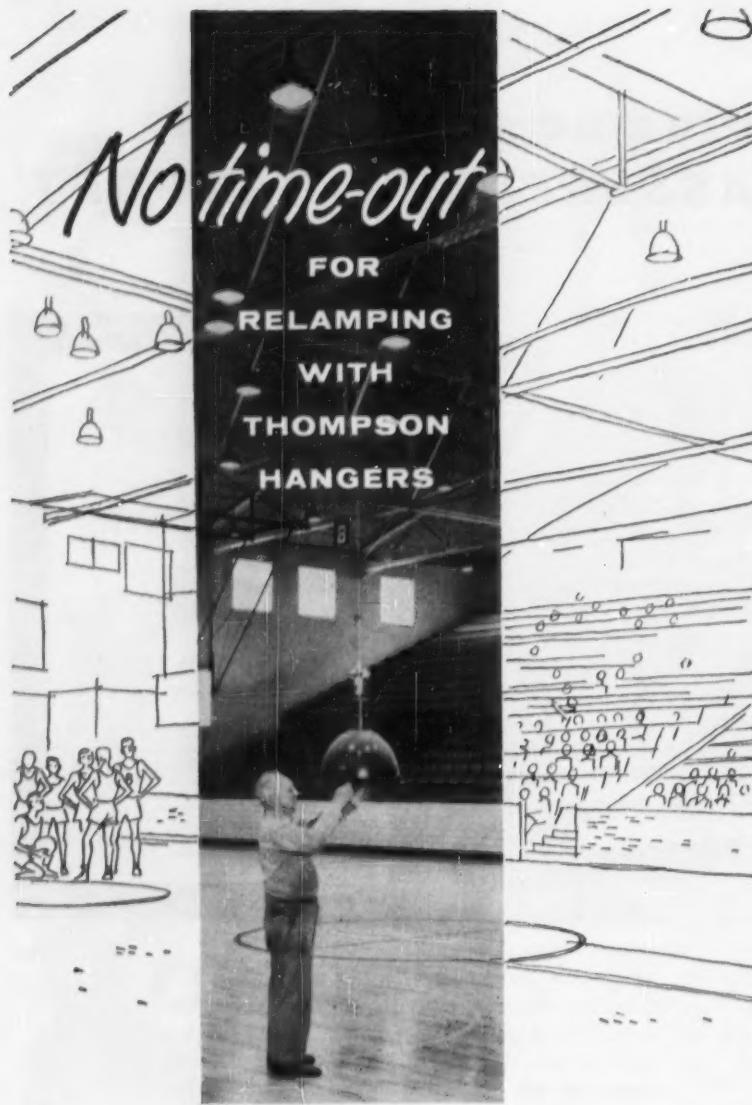
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SPOTLIGHT

—and time may very well prove that we are underestimating our needs."

Mr. Perry spoke to the assembled chemical industry executives in support of a proposed substantial expansion of the present MCA education program. The proposal covers an initial five-year program to increase the interest of young men and women in careers in science.

The program will cooperate actively with schools at every level from the sixth grade through college.

He also announced that results of a pilot program conducted this year at the junior high school level in 50 school systems throughout the country were "encouraging enough to convince us that we are on the right track."

This segment of the program which includes materials for both students and teachers will be extended to senior high schools this year.

Conference Calendar

AUGUST

26-31, Annual Meeting, National Conference of Professors of Educational Administration, University of Arkansas, Fayetteville.

OCTOBER

7-11, Forty-second Annual Convention, Association of School Business Officials of the United States and Canada, Washington.

14-17, Eleventh National Conference, County and Rural Area Superintendents, Department of Rural Education, NEA, Atlanta.

14-18, Annual Convention, National League to Promote School Attendance, Philadelphia.

NOVEMBER

10-12, Annual Conference, Adult Education Association of the USA, Atlantic City, New Jersey.

DECEMBER

27-30, Annual Winter Conference, National Science Teachers Association, NEA, in conjunction with the American Association for the Advancement of Science, New York.

1957

FEBRUARY

16-21, National Convention, American Association of School Administrators, NEA, Atlantic City, New Jersey.



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lative machine...the facility with which they make the transition to manual typewriters without time-wasting, difficult adjustment periods is truly remarkable. Learn more about why the Remington Electric is the ideal typewriter for the classroom by writing for the free S. T. E. P. (School Typewriter Electric Program) Kit (RE8675), Remington Rand, Room 1823, 315 Fourth Avenue, New York 10.

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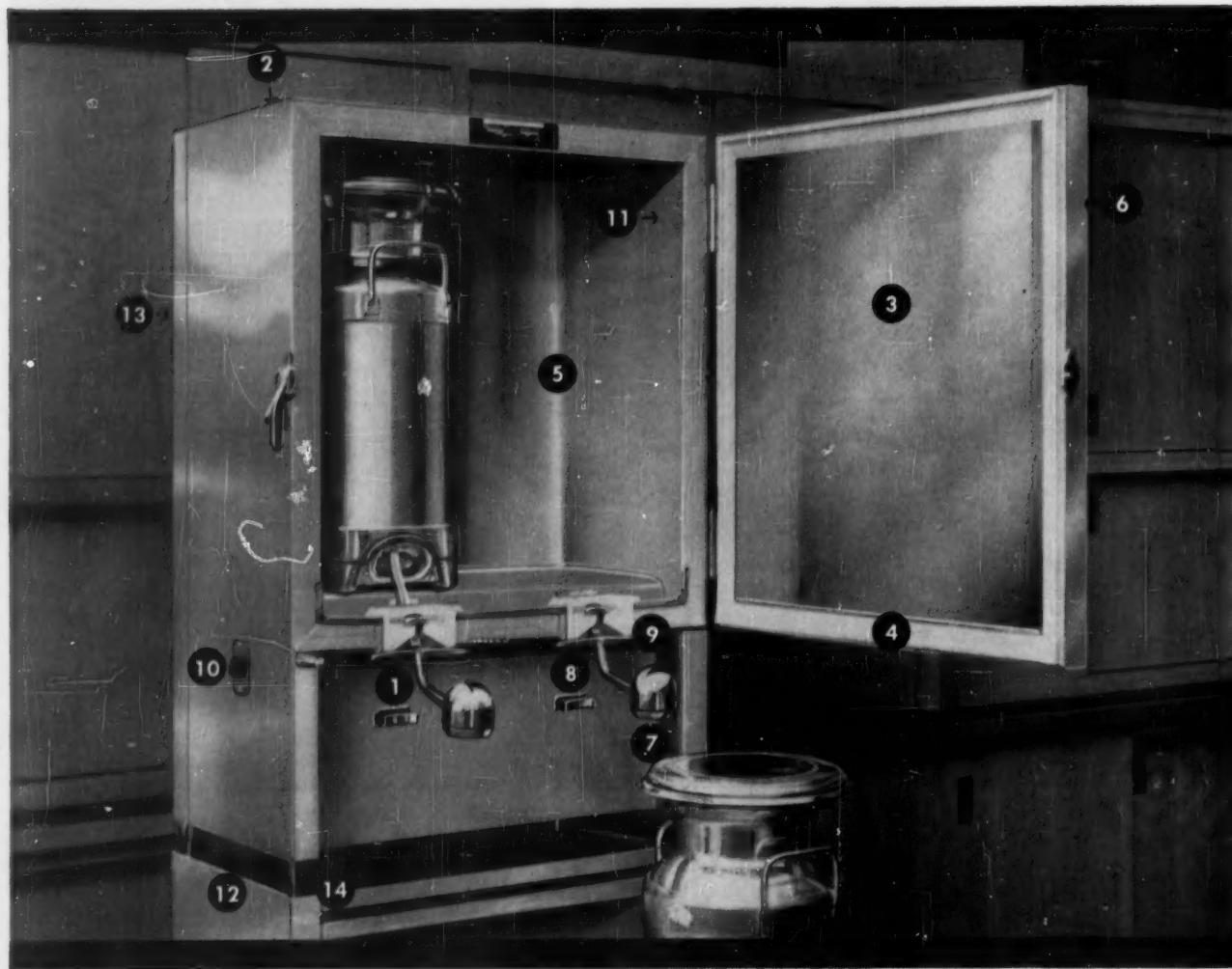
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8. NEW GLASS-POSITIONING GUIDE for quick spill-proof filling.
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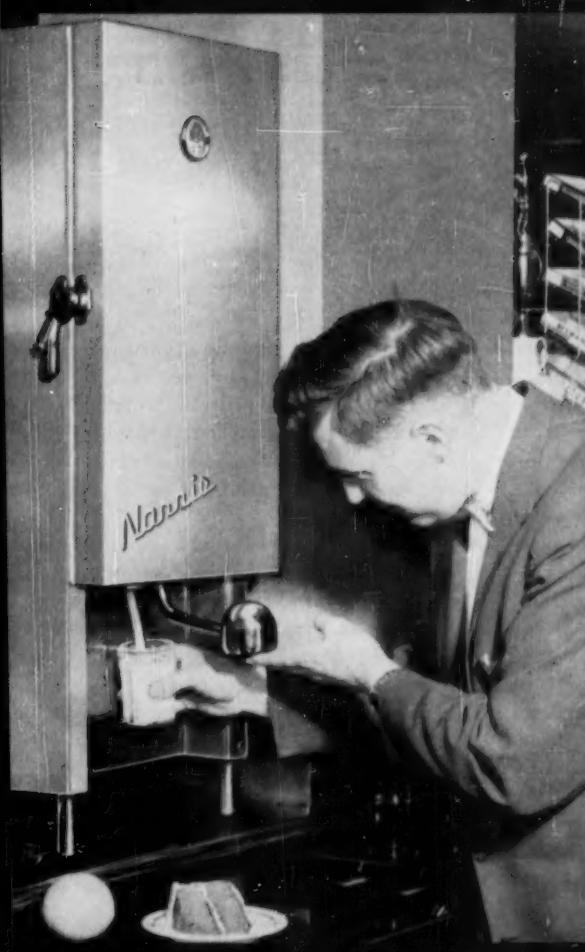
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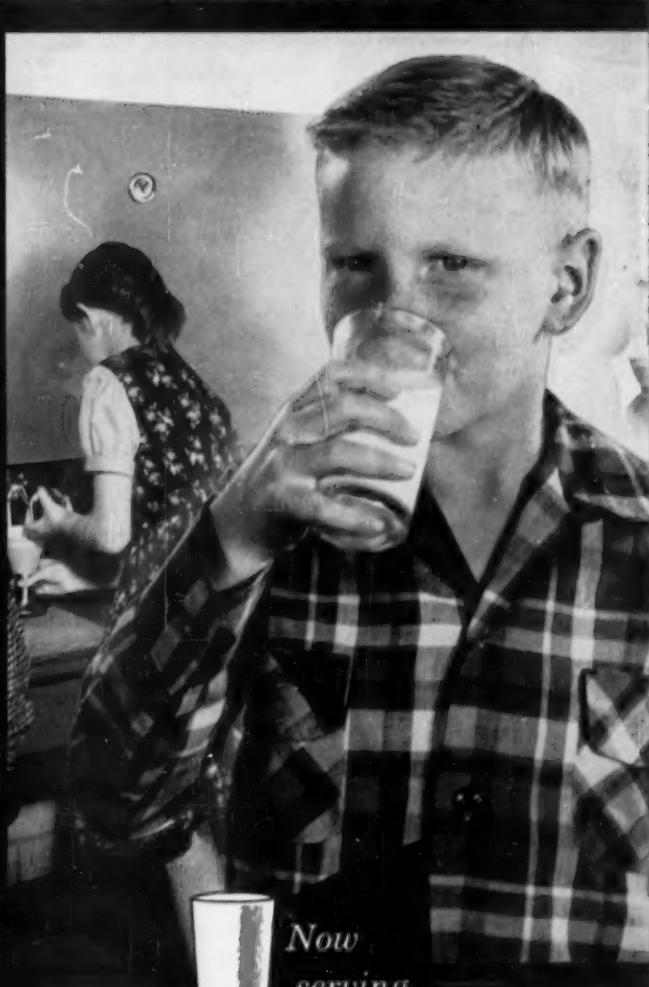
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SCHOOL LUNCH



▲ Truck Driver Laing loads his "chuck wagon" with thermos containers packed with hot and cold food at the central kitchen

▼ Before lunchtime, employee at Cameron School, which has no kitchen, unpacks containers and prepares food, still hot (or cold), for service to students



Greeley, Colorado, dug into its frontier past, and adapted the chuck wagon to its school lunch problems

A Western Version of the Central Kitchen Plan

by LEONA S. HAYES

Director of School Lunch
School District #6
Greeley, Colorado

In the days of old, western frontier plainsmen were fed from a chuck wagon while traveling from range to range or driving herd across the vast open spaces to a railroad. This method of providing food has persisted, and is used today to carry provisions and stores to cowboys and harvest hands working in open country far away from their home kitchens at mealtime.

Some of the younger generation of westerners in School District #6 of Greeley, Colorado, are being fed from a chuck wagon. The wagon, however, is a panel truck owned by the district, which transports the daily, carry-in lunches. School administrators and lunch directors from other parts of our nation will recognize this as a locally-applied version of the central kitchen plan. For Greeley has, like countless other school districts, decided to transport lunches to schools with no kitchen room, or with less than 100 students.

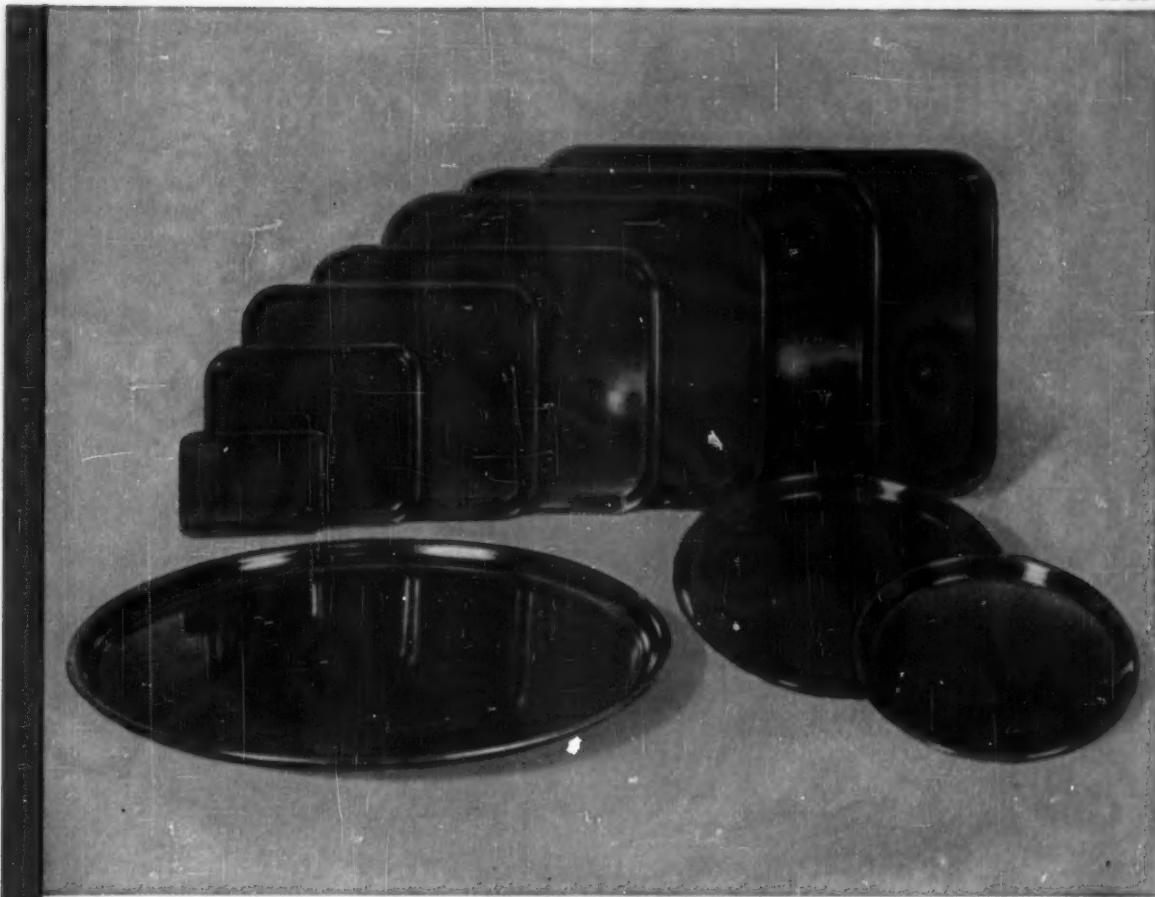
The carry-in, or transported, lunch has many advantages. It is possible to take lunches to five different schools with one truck and one driver. This has saved the district the cost of equipping five kitchens for food preparation. There is a saving in daily labor cost also. School

Lunch employees, who are on an hourly pay basis, and employed in a school with a carry-in program, work an average of three or four hours. Those in a kitchen where food is prepared will average a six- or eight-hour day.

Thus a considerable saving on labor cost is achieved by the "carry-in" lunch program. The food going out has been prepared in three of seven well-equipped kitchens. In doing this, the work is divided among women already hired and trained for food preparation. The lunch arrives, at the carry-in school, hot, attractive and in every respect the same food as that served in the "home" kitchen. Milk is delivered directly to most of these schools by the dairy from which the district purchases milk.

While the panel truck does not remain at each school longer than necessary, the food is taken from it in thermos containers with baking insets and in special boxes (which were made in the school's shop to fit standard bake and bun pans). The food is served then in the same manner as in the larger schools by trained school lunch personnel, assisted in many instances by cooperative faculty members.

Over a period of five years, the



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molded plastic
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are the finest quality
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LUNCH

number of schools in District #6 has increased, as well as the number of schools to have a "carry-in" lunch program. This chuck-wagon feeding began with one school and has now risen from eighteen to thirty-two. In order to employ and hold on to the type of women desired in the lunch program, salaries were raised. These wages are equal to, or surpass, salaries paid to lay persons in other similar types of work in and around Greeley.

One truck, many schools

Many factors should be considered in determining the number of schools that may be served by one truck: the number to be fed, the type of "chuck-wagon" available, and equipment necessary for handling the food. The type of person in charge of the truck is most important. He must be dependable and skilled in the handling and delivery of food on time. Another factor that must be considered, is the availability of the home kitchen. It must be possible for the truck to drive within a reasonable distance of it for the efficient loading and unloading of food and equipment.

The average daily number of students eating lunches in the District #6 program during a typical month is about 2,000. Of these, about 400 students were served by the carry-in truck. These students are in schools widely scattered over town, making necessary a double ten-mile route. The first trip is made to carry out the food and the second to pick up containers, left-over food and dirty dishes and garbage from some schools.

In conclusion, many large and small school districts have successfully used and are using the central kitchen idea of a carry-in lunch program. This makes hot lunches available to all students. The chuck-wagon idea is a means of providing lunches, economically and efficiently, to schools where kitchens are not available, where crowded conditions exist and where school budgets are stretched to the limit.



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New Stacking Cup



SE-270

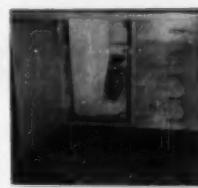
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recent publications the school administrator will want to read, to pass along to associates, or "to have heard of"

From School Program To School Plant

By John H. Herrick, Ralph D. McLeary, Wilfred F. Clapp, and Walter F. Bogner, *Henry Holt and Company, New York, 1956, 482 pp., \$5.50.*

Four experts collaborate in the compilation of a comprehensive guide on the many aspects of school plant planning. Part I, pointing out that "instruction and other phases of school program are often seriously restricted by inappropriate buildings," emphasizes the importance of adequate planning and outlines the steps from the beginning of the survey to the presentation of the building to the public and the beginning of classes.

Part II consists of "a discussion of the school program and the implications of different program features for the design of a school building and its parts." Each specialized space and technical feature is examined in terms of how to provide the most functional facilities for the school's program.

American Philosophy

Ralph B. Winn, editor, *Philosophical Library, New York, 1955, 336 pp., \$6.00.*

This is the kind of book that one reads in rather than through. It represents an effort to introduce readers to problems, currents and schools of American philosophy.

Three sections comprise the volume. Part I deals with the traditional "fields" of philosophy (axiology, aesthetics, ethics, etc.), Part II with philosophic schools of thought (transcendentalism, idealism, thomism, etc.), while Part III includes 25 thumbnail sketches of American thinkers.

Although some leading American philosophers have contributed some excellent papers, the quality of the

essays, particularly in Part III, is uneven. One has the sense that busy schoolmen might more profitably read Emerson, Whitman, Peirce and Dewey in the original!

—LAWRENCE A. CREMIN
*Associate Professor
of Education
Teachers College
Columbia University*

Rural Education— A Forward Look

Yearbook of the Department of Rural Education, NEA, *1201 Sixteenth St., N. W., Washington, 1955, 486 pp., \$3.50.*

At present our rural society is changing faster than possibly any other group of significant size. *Rural Education—A Forward Look* gives a superb presentation of these changes.

This book points out why and how recent changes have come about, and offers guides to action for educators and others who are interested in constructively shaping inevitable changes of this segment of our society. It is as up-to-date as any book can be. It has brought together the best in rural school administration.

—JOHN W. GILLILAND
*Professor of Education
University of Tennessee*

When Teachers Face Themselves

By Arthur T. Jersild, *Columbia University Press, New York, 1955, 169 pp., \$3.25.*

This book is based upon the thesis that education should help both children and adults to develop self-understanding. He points out that if teachers do not have adequate self-understanding then it is unlikely that they can impart this same quality to pupils.

Problem areas, in which adequate self-understanding by teachers seems to be most lacking, form chapter headings for the book. These have been selected by the author through wide reading in personal psychology

and through student responses.

However, it is refreshing to note that the discussion of issues in the text is not entirely dependent upon either of these two sources. The author goes beyond these artificial limitations and a review of the book indicates that he clearly has done so to considerable advantage.

—PAUL V. PETTY
*Professor of Education
College of Education
University of Arkansas*

Teacher Education For a Free People

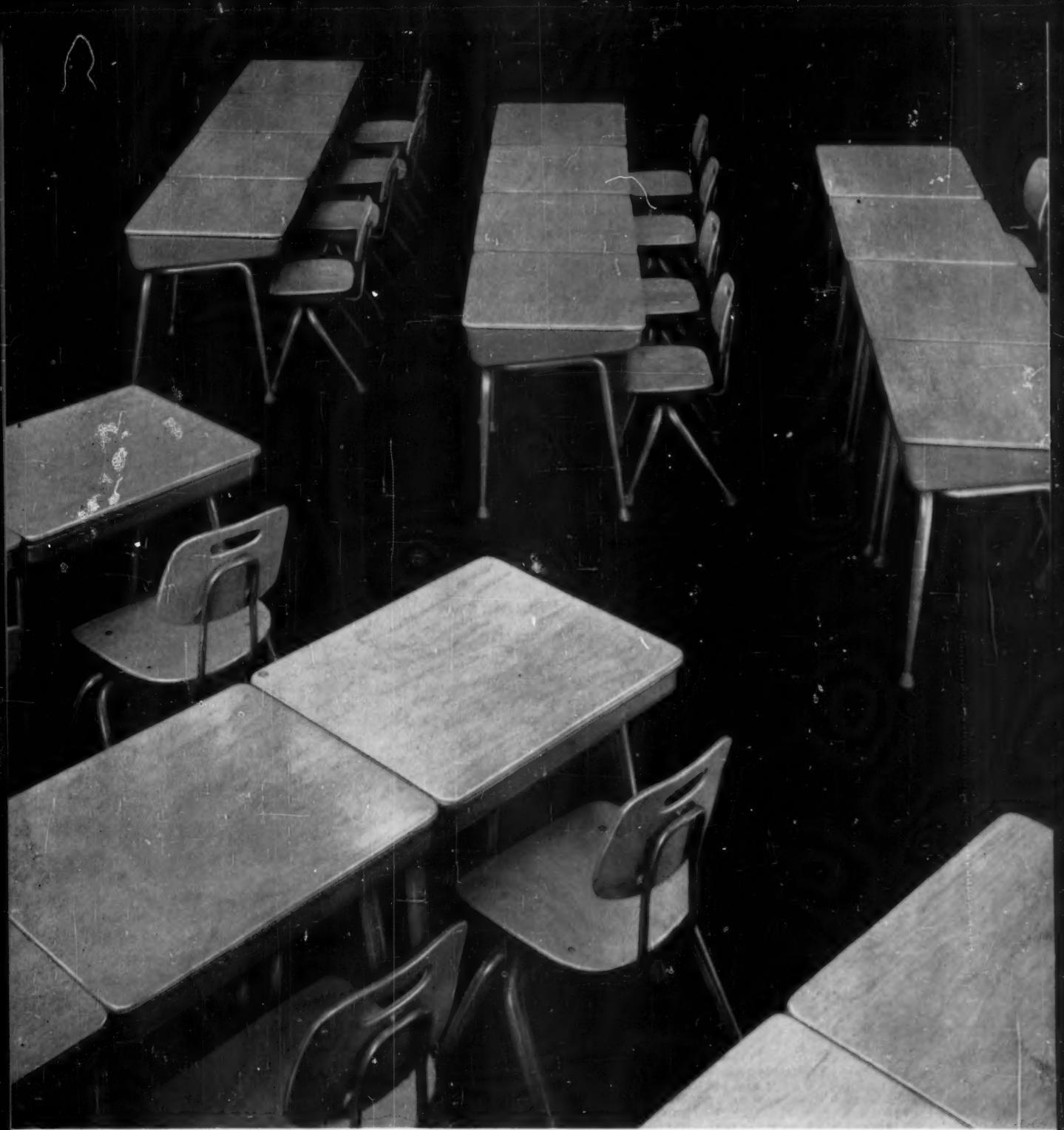
Donald P. Cottrell, editor, *The American Association of Colleges for Teacher Education, Oneonta, New York, 1956, 406 pp.*

Prepared by a committee of outstanding leaders in teacher education, under the editorship of Dean Cottrell of The Ohio State University, this book represents the most comprehensive effort to date to present an overview of teacher education in the United States. The authors recognize the ferment in teacher education that exists today. However, rather than indulging in controversy, they identify issues objectively and deal with them constructively.

Quite significantly this book reminds us that it is our teachers, properly educated to their task and dedicated to their birthright, who carry freedom from one generation to the next. Hence, with wisdom we should give proper attention to our programs of teacher education.

The book is well written and benefits from an unusually effective job of editing and organization. Chapters on College Teaching and Teacher Education, Student Personnel Work in Teacher Education, and the Role of Administration in Teacher Education extend the book's usefulness.

—LINDLEY J. STILES, *Dean
School of Education
University of Wisconsin*



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JUST ONE LINE CONTINUES TO SET THE PACE...IT'S

Brunswick

Pamphlets

(Continued from page 13)

versity of Wisconsin. Bureau of Audio Visual Instruction, University of Wisconsin, 1312 W. Johnson St., Madison 6, Wis. Limited number of copies available.

Education in Lay Magazines, Fourth Quarter, 1955 is the periodical study in this subject put out by the Educational Research Service

of AASA and the Research Division of NEA.¹ Price: \$1.00.

The Senior High School and the Public is the report of the survey undertaken by the Pasadena Committees on Public Education, 259 S. Los Robles Ave., Pasadena, Calif.

Vocational Education

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school, post-graduate and adult training. Office of Education.² Price: 20¢.

Public Vocational Education Programs gives an overview of the cooperative federal-state program developed under the Smith-Hughes and George-Barden Acts. Office of Education.² Price: 15¢.

Administration

"We Hold These Truths . . ." a credo of five principles on the goals of the American public schools. Commission on Educational Policy, California Teachers Association, 693 Sutter St., San Francisco 2.

The School Teacher's Day in Court and Pupil's Day in Court contain 1955 legal cases throughout the nation involving these two educational groups. Research Division, NEA.¹

Supervision in Rural Schools is a report on beliefs and practices. Bulletin 1955, No. 11, Office of Education.² Price: 25¢.

Building Faith in Education contains proceedings of the 32nd annual educational conference and the 21st annual meeting of the Kentucky Association of Colleges, Secondary and Elementary Schools at the University of Kentucky. Bulletin of the Bureau of School Service, College of Education, University of Kentucky, Lexington. Price: \$1.00.

School Plant

Report of the Long Range Planning Phase of the School Facilities Survey covers reports by 38 states on their projected, state-wide plans for school plant construction, according to existing and contemplated satisfactory administrative units, according to suitable school centers serving logical attendance areas. Office of Education.² Price: 55¢.

¹Pamphlets published by National Education Association departments may be obtained by writing to 1201 Sixteenth St., N. W., Washington 6, D. C.

²Office of Education publications are available through the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

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To enclose school property . . .

The fence that is installed around the modern school serves many purposes. It encloses the property, establishes boundary lines. It creates safe playgrounds for small children, guards the athletic fields where high school students play. In addition, it protects the school plant from vandalism and theft and helps in the collection of admissions at school events.

The fence is indeed a very important part of the well-run school, and that's why it should be good fence . . . like Cyclone Chain Link Fence. Because Cyclone Fence is a quality product, it is a worthwhile investment that pays off in years of trouble-free, maintenance-free service. Cyclone gives full value for your dollar. Nothing but brand-new, top-quality material is used throughout. Posts and top rails are heavy and rigid. Gates won't drag. Every part of Cyclone Fence is heavily galvanized to offer greatest resistance to rust and corrosion. The Chain Link Fabric and barbed wire are galvanized after weaving, leaving no bare spots that would encourage rust.

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UNITED STATES STEEL

WASHINGTON SCENE

news from the Capital affecting education

Hopes dashed on Federal aid bill

THE LUMBERING RULES Committee of the House of Representatives flashed into action on federal-aid-to-school-construction late in June, and turned the Kelley bill (H. R. 7535) over to the tender mercies of the House. This is the first time in history that a bill of this type, granting general aid to all states, has been reported to the floor from the House Rules Committee.

After a week of furious floor debate, involving recorded and voice votes on "racial" and "need" amendments, by a vote of 224 to 194 the House killed the Kelley bill.

Before floor action, both enemies and friends of the measure put in their final blows. Representative Ralph Gwinn (R-N. Y.) assailed the Kelley bill as socialistic and said that "the whole idea of federal aid to education has been persistently pursued through the years, particularly by the socialists."

That conclusion may be related to his statement that New York would pay net "30 percent of the whole school aid check." Whether or not this is true, it is certain that New York, and other wealthier states will, in accordance with the American principle of taxation, contribute to the public welfare in proportion to their ability to do so.

The last blows in the Rules Committee on the Kelley bill were only verbal. Newspapers recall that a year ago disagreement over the bill in committee was accompanied by physical encounter.

Debate on the measure waited for the return of Rep. Augustine B. Kelley (D-Pa), author of the bill, and Rep. Samuel McConnell, Jr. (R-Pa.), to fly back from Geneva, Switzerland, where they were on government business.

The amendment proposed by Con-

gressman Adam C. Powell, Jr. (D-N. Y.), to prohibit the distribution of monies under the terms of this bill to states and communities where racial segregation had not been completely abolished, was offered on the floor with the House sitting as a committee of the whole.

Reaffirming a teller vote, the Powell amendment stayed in the bill on a roll-call, 225 to 192.

However, fearing failure of the Powell amendment, some representatives offered for consideration of the House Education Committee a bill to give federal financial aid only to school districts which abolish racial segregation. It was intended that this plan accomplish by legislation what Congressman Powell hoped to accomplish by amendment on legislation already in the hopper. The House Education Committee voted 14 to 10 to pigeonhole the proposal.

Southern Democrats feared administrative action or an appropriation bill rider if H.R. 7535 were allowed to pass, even as written.

Administration supporters in the House, once the "need" formula (aid on basis of state resources, percentage of income and school age population) rider was voted down, blamed Democrats for failure of passage of the Kelley bill.

Fitness defined as Physical, mental, spiritual

THE PRESIDENT'S CONFERENCE on the Fitness of American Youth held its first meeting at the Naval Academy in Annapolis in June. It was a great arena for the cheering section that will go into action at the "big game."

In attendance at the Conference were well-known sports personalities, including Baseball Commissioner Ford Frick, former heavyweight champion Gene Tunney, baseball great Rogers Hornsby and Yale

basketball coach Howard Hobson.

Vice-President Nixon presided. There were about 150 in attendance. Marion B. Folsom, Secretary of Health, Education and Welfare, sounded the keynote with a vision of a golden age of fitness.

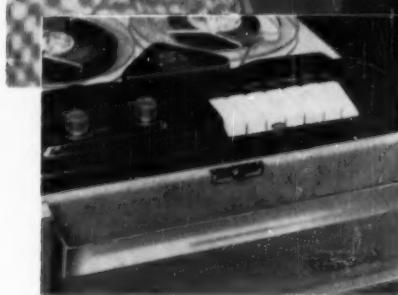
This new enterprise of the President will not stop at the development of big muscles or even the cultivation of good livers and lungs. According to Mr. Folsom, there is now "a third dimension to fitness—more vital, more affirmative, more creative than our old notions implied—the capacity to function in every way at one's own best physically, mentally and spiritually."

A message from the President himself also emphasized the "whole man." He said "our young people must be physically, as well as mentally and spiritually, prepared for American citizenship."

President Eisenhower stressed that he was not sponsoring "an over-riding federal program. The fitness of our young people is essentially a home and local community problem." He announced his intention to issue an executive order which will establish a President's Council on Youth Fitness. Members of the cabinet who head departments having activities "in this area" will serve on this Council. It is hoped that the activities of some 35 federal agencies will be better coordinated in this way.

In addition to the President's Council, there will be a President's Citizens Advisory Committee on the Fitness of American Youth, composed of key citizens from various walks of life. Their assignment will be to examine and explore the facts and thereafter to alert America on what can, and should, be done to reach the much desired goal of a happier, healthier and a more totally-fit youth in America.

EVEN A FIRST GRADER CAN EASILY OPERATE THE *Bell* RT-88 TAPE RECORDER



All control buttons are grouped for easy, one-hand operation.

Three Motors

The Bell RT-88 Tape Recorder also incorporates an exclusive 3-motor mechanism (the only 3-motor tape recorder in this price class) to reduce annoying "wow" and "flutter" to the point of negligibility.

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It's easy to carry from room to room, since it is one of the lightest tape recorders on the market. However, it is ruggedly built for service-free portability and to endure the rough operation encountered in school use.



"Piano Keys" control it . . . insure top quality recording

Piano Key Controls — All functions of the Bell RT-88 Tape Recorder (except tone and volume) respond to a gentle touch of its exclusive "Piano Keys" controls — conveniently grouped for easiest possible operation. The "Record" key has a fool-proof locking device to prevent accidental erasure.

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How to make School Maintenance A *Beneficial Program*

rather than an expensive chore

When asked the definition of school maintenance, an administrator once said, "Well, it's nothing more than keeping the building and equipment clean . . . and, of course, making the necessary repairs or replacements." But he has changed his opinion.

Today . . . with all its high costs and high taxes . . . you can't afford to be content with "keeping the building and equipment clean." Too many "necessary repairs or replacements" are sure to follow. Progressive school administrators and custodians realize that maintenance now must mean *preserving* as well as cleaning . . . *rejuvenating* depreciated floors to prevent so many repairs or replacements . . . adopting a definite program that will assure the longest possible building life and best educational returns on the original investment. It's not just an expensive chore.

For more than thirty years Churchill has been a leader in establishing higher standards of school maintenance . . . for the benefit of students, parents and all taxpayers. Churchill products are not ordinary sales items made to meet competitive prices, but integral parts of tried and proved programs or methods which assure best possible results. Churchill representatives and distributors (covering every section of the country) are not classed as salesmen, but experienced *consultants* . . . always ready and willing to help you find the best possible solution to every maintenance problem. If you are not familiar with this unusual service, be sure to call your nearest distributor or representative, or write directly to the factory.

This extensive 60-page catalog outlines school maintenance programs of today; illustrates and describes the complete Churchill line. It's yours for the asking.



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New Product

Reviews

The key numbers (SE —) which appear at the head of each product review and advertisement in this issue are also listed on the yellow mailing card that is bound in this section. For further information on any product, simply circle on the card the key number for that product and mail the card to us.

CLASSROOM EQUIPMENT

See also page 126

Storage Cabinets SE-401

Emphasize Flexibility



Flexible classroom storage space is provided in three cabinet styles by the Brunswick-Balke-Collender Co.—the 2200 series cubicle storage cabinet, the 1500 series two-tier cabinet, and the 2200 series general storage cabinet.

The cubicle storage cabinet, 48" x 22" with a variety of heights ranging from 23" to 37" provides the school with individual private storage cubicles for each student in a classroom. An easily adjusted, flexible divider arrangement provides storage for up to 24 students in a single cabinet. Legs, casters, full bases or island bases are available with this cabinet.

The two-tier cabinet, 48" long, 15" deep and 29" high serves as an all-purpose unit. Its storage area can be subdivided in a variety of ways to provide maximum flexibility.

The general storage cabinet, 48" x 22" in heights from 23" to 37" will store all of the general teaching supplies used in the classroom such as chalk, paste, paper, ink.

All cabinets are finished in sage gray with a plastic surfaced top for a work area.

THE BRUNSWICK-BALKE-COLLENDER CO., 623 S. Wabash, Chicago 5, Ill.

BUILDING PRODUCTS

See also page 130

Skylights SE-402

Increase Interior Lighting

Consolite skylights are designed to provide interior lighting without increasing the cost of lighting. This skylight combines all the basic functions of a skylight in double dome. As part of the new concept, the double dome gives top insulation and ideal light diffusion—it prevents condensation and is important to the leakproof qualities of the new skylight.

Consolites are made of fiber-glass reinforced thermosetting plastic.

CONSOLIDATED GENERAL PRODUCTS, INC., Houston, Tex.

TEACHING MATERIALS

See also page 136

SE-403

Compound Microscopes

Offered in Wide Variety of Models



Microstar is the name of a completely new line of compound microscopes. The basic design features interchangeable and reversible inclined monocular, binocular, and trinocular bodies. The stage and specimen are focusable to the objective by low-positioned coarse and fine adjustments—body tube height and eye level remain constant. Variable auto-

focus eliminates objective and specimen damage.

Of special interest is the fact that even the simpler microscopes can be modified to meet more advanced requirements by the addition of interchangeable parts and accessory equipment.

AMERICAN OPTICAL, INSTRUMENT DIV., Buffalo, N. Y.

MAINTENANCE

See also page 140

Janitor Service Carts SE-404

In Regular and Jumbo Sizes



Janitor Service Carts are made with heavy-duty steel frames to give long life service.

Carts, equipped with two 4" soft and two 2½" composition wheels are light in weight, sturdy, roll silently and easily. The Jumbo size cart is 30" long x 25" wide x 40" high when open and 48" long when collapsed. Platform is 24" long x 21" wide.

Eleven bushel capacity strong canvas refuse bags available in white or fire resistant olive drab, are washable and replaceable.

LEXCO ENGINEERING & MFG. CORP., Dept. JC, P. O. Box 161, Colmar, Pa.

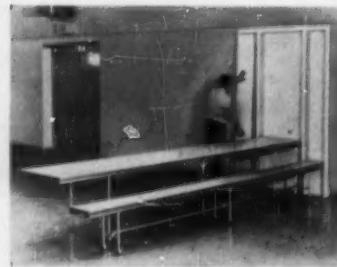
CLASSROOM EQUIPMENT

SE-405

Folding Table-Bench**With Space-Saving Wall Cabinets**

The Wall-Fol Folding Table and Bench Set, with a space-saving wall cabinet, is a new product of Rol-Fol Table, Inc.

Designed for school multi-purpose rooms and social halls, the tables and benches easily roll and fold in and out of steel wall cabinets. These storage cabinets may be installed in wall



recesses or attached directly to the wall surface.

The tables and benches, 14' long, have plywood tops surfaced with

SE-276



Serve milk as it should be served...COLD!

Save time . . . save refrigerator space . . . install

Made by Schaefer, Inc., makers of the famous Schaefer ice cream cabinets, and manufacturers of refrigeration equipment exclusively since 1929.

Ordinary, all-purpose commercial refrigeration is always crowded, and doesn't keep milk at the cold, drinking temperature most people prefer. Schaefer's Model MC-10 special milk refrigerating cabinet is widely used in schools, hospitals, institutions, restaurants, factories, drive-ins . . . wherever milk is served.

Big capacity . . . 676 half-pints . . . takes the overload off your regular refrigerator and provides a supply of sweet, COLD milk always ready for serving. Adjustable temperature control from 36°F to 46°F. Adjustable, removable shelves. Outside finished in sparkling white baked enamel. Stainless steel, sliding doors on top. Convenient drain. Occupies only 37" x 28" floor space. Write for literature and prices. There's a Schaefer distributor nearby to serve you.

Schaefer INC., MINNEAPOLIS 1, MINNESOTA

plastic laminate in a wide variety of colors and patterns. The steel undercarriage of units is self-supporting and self-standing. Cadmium plated tubular steel legs are attached to the steel frame members and not to the plywood.

A choice of six different table and bench heights is available to suit requirements.

ROL-FOL TABLE, INC., 8467 Melrose Pl., Los Angeles 46, Calif.

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With Vacuum Adapter

Trayvac is a combination of a chalk tray and a simple and effective vacuum head which is connected to a motor driven vacuum producer through 3/4" copper tubing with valve control at each chalk tray. This unit produces a quick method of removing the chalk dust at its source and at the same time, cleaning the eraser, thus preventing contamination of the classroom air with chalk dust.

The Trayvac can be easily incorporated into any new and most existing buildings. It is designed for rugged wear and a minimum of maintenance.

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Is Inexpensive, Attractive

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One of Hampden's Famous Five seating chairs. Choice of seating experts. Carefully designed for comfort and 'balance'. Sturdily built for a lifetime! No. 74—Strong channel steel frame. Seat and back posture contoured for comfort. Finished in baked-on, chip resistant enamel. Rubber capped feet.



5 different styles to choose from

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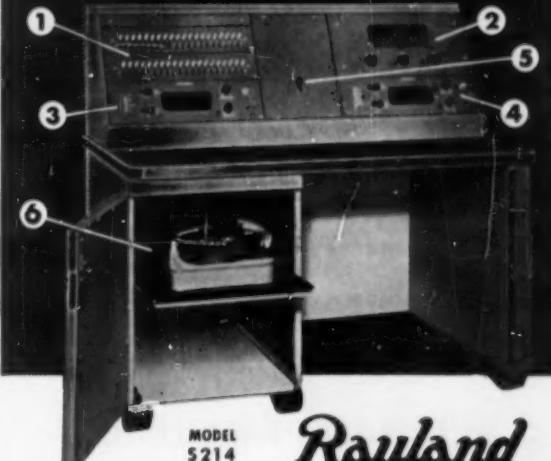
SPECIALTY PRODUCTS, INC.
FAIRFIELD - MASSACHUSETTS



August, 1956

SE-279

Unsurpassed Educational Tool CENTRAL CONTROL ALL-FACILITY SCHOOL SOUND SYSTEM



MODEL
S214

Rauland VERSATILE DUAL-CHANNEL SYSTEM

Here, at minimum cost, is the *complete* answer to administrative problems. This All-Facility Console distributes administrative information instantly for up to a total of 40 classrooms; feeds microphone, radio and phone programs to any or all rooms, and provides 2-way conversation between any room and central control Console. Includes every modern feature to enhance instruction and improve administration.

Your choice of every desirable program facility

1 SWITCH PANEL

Selects any or all rooms (available with up to 40 room capacity). Distributes any 2 programs; selects communication and room-return.

3 PROGRAM PANEL

Selects and distributes any of 2 microphones (one at Console and one remote), Radio or Phonograph.

5 ALL-CALL SWITCH

An Emergency and All-Call feature—instantly connects all rooms to receive programs or instructions.

This System is also available in S114 Consolette model, less desk. Write for full descriptive details covering these quality-built, ultra-modern systems.

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We have.....classrooms; auditorium seats.....

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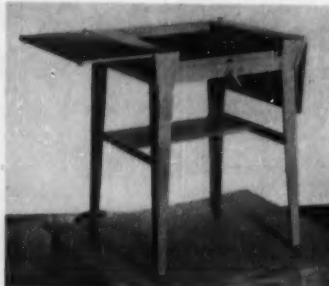
CLASSROOM EQUIPMENT

Typewriter Table SE-408

Bed Adjusts 3½"

Semco's new all-metal adjustable typewriter table can be set at any height from 26 to 29½". The writing bed becomes flush with the top of the table when raised to maximum height. A gentle turn of a handle is all that is needed to make the adjustment.

Vibration is held to an absolute



adjustable so that secure, level placement of the table is insured.

Sixteen gauge steel is used in the legs; the top is 18 gauge, insulated steel. The rubber-covered typewriter bed is 16½" x 19", wide enough to accommodate electric typewriters and machines of any make.

SEMCO SALES, Pinellas International Airport, St. Petersburg, Fla.

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A lightweight, fiberglass wall-mounted drinking fountain has been designed with flowing contour lines that enhance any style of architecture. Five decorator colors are available and white.

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1/3 THE
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In one fast operation the NEW 21" Tennant Model "E" applies dry renewal wax and buffs it to a rich luster—lets custodians maintain classroom floors, hallways, etc., up to 3 times faster than usual.

Powerful vacuum picks up dust that ordinary machines leave on floor. Self-propelling action plus light weight give excellent handling ease—you just guide it forward!

Cylinder-type accessories revolve at 1135 rpm; assure extra-fast work for all phases of resilient tile care—and for cleaning, stripping wood floors. For details write . . .

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SPECIALIZED MAINTENANCE EQUIPMENT

POWER SWEEPERS • FLOOR MACHINES • SCARIFIERS • ROOF SCRAPERS • CONCRETE ROUTERS

Check these TENNANT features:

- Covers 21" path—has 265 cfm vacuum.
- Has high portability; weighs only 95 lbs.
- Easy to use; has self-propelling action.
- Leaves uniform luster; no swirl marks.
- 1 hp motor—yet works off clear 110-v. line.

Desk SE-410

Features New Book Box

Single-unit seating convenience, plus the neatness advantage of a completely-enclosed book box are two of the features of the new Model 789 Study Top Desk. This colorful desk has a sturdy steel book box, easily accessible through a lift-lid desk top. Top and book box have a 3" front-to-back adjustment. The desk top is of heavy hardwood plywood with plastic tops available. Seat and back of the chair part of the Model 789 are of comfortably-curved hardwood plywood.

GRIGGS EQUIPMENT, INC., Belton, Tex.

SE-281

for

**BEAUTY
PERMANENCE
MAINTENANCE
EASY INSTALLATION**

LOXIT
FLOOR-LAYING
SYSTEM

It's simple to install! Just three parts needed! No special tools necessary! A "must" for wood floors laid on concrete. Write for descriptive literature.

LOXIT SYSTEMS, INC.

1217 W. WASHINGTON BLVD. • CHICAGO 7, ILLINOIS

SE-282

Specify
Letter Boxes
Keyed for
Modern
Efficiency

You get an extra-convenience keying feature with CORBIN Letter Boxes that's a "natural" for schools and colleges. It permits a student to unlock dormitory door, room door, and letter box with the same key. It's an "optional" you'll want for highest efficiency in your mail system.

CORBIN Letter Boxes give you solid security too — the same sturdy construction that qualifies them for post office use. The only difference is appearance . . . richer, more distinctive designs that blend with any modern school interior. For modern efficiency and appearance, specify CORBIN Letter Boxes. They're available with either key or combination type locks; in complete, assembled sections, ready for service. Write for Catalog WP 25. Corbin Wood Products Division, Dept. SJ, The American Hardware Corporation, Hornell, N. Y.

CORBIN LETTER BOXES

August, 1956

SE-283

For folding chairs
with comfort, rigidity
and enduring service



Look to
KRUEGER
posture-perfect
Series 80!



For all-around comfort, durable rigidity, strength and functional purpose you can't match this folding chair. It's Krueger's finest and your best long-life value. Non-tipping Y-type frames of heavy-gauge tubular steel are electrically welded into one strong unit that will withstand the hardest usage.

A WEALTH OF FEATURES — Such as vertical frame strengtheners; strong, secure and silent seat stops; unusually large, posture-comfort seats; fully covered safety hinges; and quiet, quick and easy folding action are just some of the many features built into Krueger's exacting engineering standards.

TWO POPULAR MODELS — No. 81, an all-steel chair with contour shaped seat and backrest; No. 82 which features a 5-ply hardwood veneer contour seat with steel backrest. Choice of Beige, Azure Grey or Saunders Green baked-on enamel finish frames—Wood seat, natural satin finish.

Demountable CHAIR TRUCKS

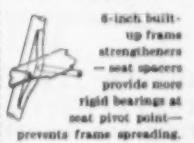
Four standard sizes hold both X-type channel and Y-type tubular chairs — upright or horizontal. Regular or under-stage models available. Demountable end arms and exclusive chan-angle frame permit stacking empty trucks.



Write

For new, complete line catalog No. 600 as well as brochure No. 100.

THESE
DETAILS
ASSURE
LASTING SATISFACTION



KRUEGER
METAL PRODUCTS • GREEN BAY • WISCONSIN

BUILDING PRODUCTS

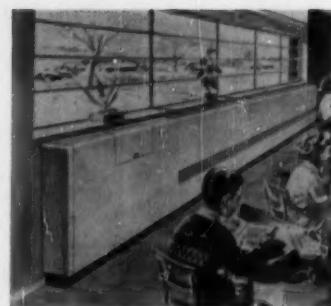
Aluminum Jalousie SE-411 Applies Light Control to Skydomes

The Clearview aluminum jalousie is used to apply light control to skydomes particularly in schools where it is necessary to darken rooms for visual education and also to cut down the heat and glare which penetrate this overhead lighting unit at certain periods of the day.

The jalousie unit, made to special sizes, is easily inserted in the skydome at ceiling level, with the op-

erating principle so devised that the louver may be adjusted as desired even at inaccessible heights.

CLEARVIEW DOWINDO CORP., P. O. Box 1021, Ft. Lauderdale, Fla.



SE-412 Heating-Ventilating Unit Is Economical, Efficient

Linoventilator is a new schoolroom heating and ventilating system combining economy with efficiency. While the new system has been designed to meet exacting requirements of school authorities, it has been engineered to eliminate such costly items as com-

plicated control cycles, dampers, and expensive auxiliary radiation.

The system incorporates Linovector radiation, together with a unique air aspiration method that can be used with any type steam or hot water heating plant, and is available in two packaged units incorporating either fully automatic factory installed, electronic controls, or the complete unit without controls for field installation with either pneumatic, electric, or electronic controls.

VULCAN RADIATOR CO., 775 Capitol Ave., Hartford, Conn.

SMOOTH, SANITARY TOPS of Masonite Preswood, Linoleum, Fir or Birch Plywood, Formica and Resylite

TUBULAR STEEL FOLDING LEGS FOLD UNDER FOR STORAGE

QUICK, EASY SET-UP ★ FOR CHANGING ROOM USES



1, 2, 3, 4 LEVEL BANDSTANDS

"U" shaped set-up for BANDS and ORCHESTRAS allow unobstructed vision of musicians, director and audience. Improve appearance, discipline and director control. Some units set-up in a straight line can be used as stepped-up audience seating risers.



1-LEVEL PLATFORMS, STAGES

For speakers, raised speakers tables, ceremonies, arts, style shows. Quick set-up or removal. Used in Schools, Colleges, Churches, Hotels, Clubs, Lodges. Each unit only 2½" thick when folded. Store in small space.

USE THE SAME UNITS FOR MANY DIFFERENT ARRANGEMENTS

MFRS. of MITCHELL FOLD-O-LEG TABLES, BAND AND CHORAL STANDS, SEATING RISERS

SE-284
No other tables have as many "Extra Features" as

Mitchell FOLD-O-LEG tables

- ★ GREATER SEATING CAPACITY
- ★ MORE LEG COMFORT
- ★ UNEQUALLED APPEARANCE, DURABILITY, STRENGTH
- ★ FINEST CONSTRUCTION, MATERIALS, FINISHES
- ★ BUILT FOR LONG SERVICE

The Strongest,
Handiest Folding
Table Made!

ANY SIZE STAGE IN ANY ROOM OR HALL, ANYTIME



Mitchell PORTABLE FOLDING STANDS

- ★ Each unit a SAFE stand in itself
- ★ 4'x8'x3/4" Tops, 8" 16" 24" 32" heights
- ★ Strong, rigid TUBULAR STEEL LEGS

Write for Descriptive Folder

MITCHELL MFG. CO.

2726 S. 34th St. • Milwaukee 46, Wis.

SE-413 Ceramic Facing Tile Rectangular Shape Offers Design Possibilities



Stylin Corp.'s new 12" x 16" Magna-Tile is available in 8 matt-glazed colors and 7 ripple finishes, the latter having an interesting cob-web over-glaze. Fewer grout lines, wider expanse covered by one piece means greater sanitation; less exposure to acids; lower installation costs. Absolutely frostproof, it can be used outdoors in any climate.

STYLIN CORP., Box 341, Milford, Mass.

GIVE TO CARE

THE SCHOOL EXECUTIVE

THE LOCK WITH THE CLICK THAT COUNTS

NEW GOUGLER KEYLESS COMBINATION LOCK

New Master Key Model

Here is new Gouglar lock you should have for your school lockers. New kind of Master key fits slot in bottom.

Model No. 40



- NEW CONVENIENCE
- NEW SECURITY
- NEW SIMPLICITY
- MOST DURABLE
- FINEST LOCK FOR SCHOOLS

There are no projections or extra bulk to this new lock. It is trim, modern, rugged. Die cast case. Parts impervious to moisture.



This is our regular Gouglar Red Dot lock. Like all Gouglar locks, you can open it without looking, even in the dark. Just count the clicks.

Write for free sample lock No. 40 and factory prices

C. L. GOUGLER KEYLESS LOCK CO.
705-769 Lake St., Dept. 4

Kent, Ohio

get low-cost
AUTOMATIC
classroom
timing
with

Montgomery
SYNCHRONOUS
PROGRAM CLOCKS

Fully automatic . . . signals silenced over weekends and holidays. Easy to set to any desired schedule . . . pushbuttons provide for special signals without disturbing pre-set schedule. 12 or 24-hour models. Your existing pushbutton system may be changed to a completely automatic one for as little as \$89.50 . . . or an entirely new system installed at low cost.



PROGRAM DISC: Automatically regulates signals for 2½ or 5 minute intervals any hour of the day.

PROGRAM PINS: Placed to actuate signals at specified times.

CALENDAR SWITCH: Automatically controls operation for days, nights, week-ends.

PUSH-BUTTONS: Provide special signals without disturbing automatic operation.

See your dealer for detailed information

MONTGOMERY MANUFACTURING CO. OWENSBVILLE INDIANA

LONGEST BED

OF ANY 6" JOINTER IN ITS FIELD*



*ALSO
AVAILABLE
IN MODEL 60
8" JOINTER

FULL 48" CAST IRON BED ASSURES
PERFECT EDGE ON ANY LENGTH STOCK.
EXTRA RIGID•PRECISION GROUNDED

Here is a 6" jointer with features galore. The rigid center-mounted fence insures 100% true edges. Knife-setting is always quick and sure with jackscrews in the cutterhead.

- BOTH TABLES FULLY ADJUSTABLE—ON INCLINED DOVETAILED WAYS FOR EASY ALIGNMENT
- 45° AND 90° POSITIVE STOPS ON FENCE
- FULL CUTTERHEAD PROTECTION AT ALL TIMES
- NEW CUTTERHEAD GUARD ASSURES SAFE OPERATION
- GUARD EASILY REMOVED FOR RABBETING TO 8"
- 3 SAFETY-TYPE HIGH SPEED CUTTERHEAD KNIVES
- ALL CAST-IRON CONSTRUCTION MOUNTED ON ENCLOSED STEEL FLOOR STAND

PLANERS ● HOLLOW-CHISEL & CHAIN
MORTISERS ● JOINTERS ● TENONERS
● ARBOR & BAND SAWS

Dealers in Principal Cities

CLIP AND MAIL COUPON TODAY FOR FULL DETAILS

Yes, rush me full information on Powermatic's Model 50 6"-Jointer (or Model 60 8"-Jointer).

Name _____

Address _____

City & State _____

MAIL TODAY TO DEPT. 8

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MACHINE COMPANY

McMinnville • Tennessee

FOOD SERVICE

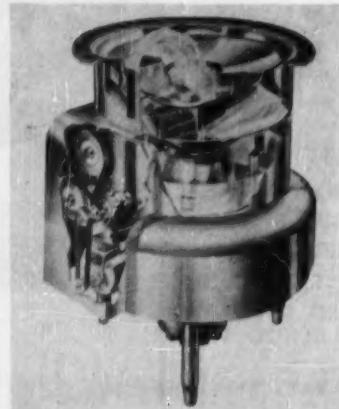
SE-414

Food Waste Disposer

Also Pre-Washes Tableware

The Salvajector is a combination unit that scrapes tableware, pre-washes it and disposes of food waste, all in a single operation. It can also be converted in seconds for use as a food grinder only.

A new higher-capacity, non-clogging food disposer has been incorpo-



SE-288

I remember the old days when all you saw were water-type food warmers.

Now, every day, more and more of them are being replaced with the efficient waterless, controlled heat type.

I guess the water-type jobs were the best they knew how to make in the old days when they had no way to control the heat but I was mighty glad to see the last of mine. It kept me as hot as the food and steamed up the room, too. In fact, all the

water did was keep my food from burning up because it couldn't get hotter than the boiling point.

A fellow once told me the water keeps the food moist but he couldn't seem to explain how it manages to get into the food. For my part, I can tell you from experience that it takes individual heat control for each kind of food to best preserve its flavor and reduce shrinkage. That's what the THURMADUKE does and that's why ...

YOU'RE YEARS AHEAD WITH A THURMADUKE WATERLESS FOOD WARMER

DUKE MANUFACTURING CO. Dept. S-8
2305 NO. BROADWAY, ST. LOUIS 6, MO.

Please send complete information on
 Cafeteria Counters Food Warmers

NAME _____

ADDRESS _____

CITY AND ZONE _____

STATE _____



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A.G.A. U.L. NATIONAL
SANITATION FOUNDATION

rated into the unit. The shredding action of the disposer prevents clogging of any kind. The new disposer, which is a $\frac{3}{4}$ h.p. vertical type, has a capacity of up to 120 gallons per hour.

Installation consists merely of connecting one water line, one drain line and tying in one electrical service to a single terminal box. A highly-simplified pump and conveyor drive system has reduced maintenance to a single, yearly lubrication.

THE SALVAJOR Co., 118 Southwest Blvd., Kansas City, Mo.

Baking Sheet

SE-415

Prevents Excessive Sticking



Wear-Ever has just introduced the Texturite baking sheet which has a new baking surface that browns evenly, prevents excessive sticking, is easily cleaned and won't show scratches.

THE ALUMINUM COOKING UTENSIL Co., INC., New Kensington, Pa.

SE-416 Dishwashing Machine

Includes Power Rinse Unit

The new Jackson 50-APR stainless steel dishwashing machine has an average operating capacity of 40 racks or 1400 dishes per hour. By installing this unit, schools can also minimize self-service clean-ups while washing as many as 480 trays every hour.

Jackson power rinsing, which functions normally and efficiently on as little as 5 lbs. of outside water pressure, is controlled by an entirely separate pump built into the rinse reservoir in the base of the machine.

Dishes are washed quickly and thoroughly.

JACKSON PRODUCTS Co., 3703 E. 93 St., Cleveland 5, Ohio.

THE SCHOOL EXECUTIVE

SCHOOL EQUIPMENT INDEX—AUGUST, 1956

This index covers products and services referred to in both advertisements and editorial reviews in this issue. To find a particular advertisement or editorial listing, consult the key (SE number) which precedes the listing, and which will also be found above the advertisement or listing in the body of the magazine.

If further information concerning any of these products is desired, it will be sent without charge or obligation. Simply circle the identifying numbers on the back of the business reply card below and mail it to us.

ADVERTISED PRODUCTS

- 201 Formica Plastic Tops
- 202 GE Textolite Plastic Surfacing
- 203 Sylvanis Recessed Troffer Fixtures
- 204 American City Bureau Fund-Raising Campaigns
- 205 Jennison-Wright Kreclite Flexible Strip End Grain Wood Block Floors
- 206 American Floor Machines
- 207 White Mop Mopping Equipment
- 208 American School & University 1956-57 Two Volume Edition
- 209 Duro-Test Lamps
- 210 Haws Fiberglas Plastic Water Fountains
- 211 Nesbitt Heating and Ventilating Equipment
- 212 Griggs School Furniture
- 213 Dixie Cups
- 214 Ft. Howard Paper Towels
- 215 American Seating School Furniture
- 216 Aluminum Cooking Wear-Ever Utensils
- 217 Mosaic Ceramic Tile
- 218 Ford School Bus
- 219 Johnson Service Dual Temperature Control
- 220 Heinz Fruits and Vegetables
- 221 Pittsburgh Plate Glass
- 222 Johns-Manville Acoustical Materials
- 223 Holdeman Hamm Erickson Portable Folding Tables
- 224 Herman Nelson Draft/Stop Heating and Ventilating System
- 225 Rawles Classroom Chalkboard
- 226 Manley Popcorn Machine & Snack Bar
- 227 Mississippi Diffused Glass
- 228 Powers Automatic Temperature and Humidity Control
- 229 Horn Folding Gym Seating
- 230 Ideal Auditorium Seating
- 231 L-O-F Tuf-Flex Glass
- 232 Klopp Coin Sorter & Counter
- 233 Carolina Campco Vacuum-Powered Stop Signal

SE

- 234 Brillo Floor Pads
- 235 U. S. Plywood Weldwood Chalkboard
- 236 Hammond Organs
- 237 Snyder Grandstands & Bleachers
- 238 Leonard Peterson Laboratory, Home Making & Art Room Furniture
- 239 Ruud Gas Water Heaters
- 240 Claridge Chalkboards & Cork Bulletins
- 241 Sperti Faraday Far-a-matic Clock and Program Systems
- 242 Multi-Clean Blue Blazes Synthetic Floor Cleaner
- 243 Sexauer Juvel Washers
- 244 Dudi-Locks
- 245 Keweenaw Laboratory Furniture
- 246 Carolina Campco Folding Chair
- 247 Page Chain Link Fence
- 248 Breuer Tornado Floor Machine
- 249 San-Mist Foot Spray Dispenser
- 250 Premier Vacuum Machines
- 251 Universal Roll-A-Way Bleachers
- 252 National School Photographers
- 253 Chevrolet School Bus

SE

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- 255 Bradley Group Showers
- 256 Up-Right Scaffold-On-Wheels
- 257 Federal Dial Intercommunication
- 258 Wenger Risers
- 259 Benjamin Capri Lighting Fixture
- 260 Sofway Telescoping Gym Seats
- 261 Wyandotte Fama Hand-Dishwashing Compound
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- 266 Norris Milk Dispensers
- 267 Keyes Plastic Trays
- 268 Stahl Chef-Styled Commercial Aluminum Cookware
- 269 Prolon Plastics Compartment Trays
- 270 Glover Homemaking Unit
- 271 Brunswick-Balke-Collender School Furniture
- 272 Corry-Jamestown Correlation Desks
- 273 USS Cyclone Fence

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- 278 Hampden Folding Chair
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- 300 Spencer Vacuslet Mop Cleaning System
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- 416 Jackson Dishwashing Machine
- 417 General Tire Decorated Trays
- 418 Food Machinery Pot and Pan Washer
- 419 Glasscock Table Top Refrigerator

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- 503 YAF Color Filmstrips
- 504 Jim Handy Guidance Discussion Series
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- 506 Wyandotte Machine Dishwashing Slide Film

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- 508 RCA Sound Control Consoles
- 509 Brunswick-Balke-Collender Gymnasium Seating
- 510 White Mop Floor Cleaning Equipment
- 511 Glass Container Manual
- 512 American Steel Ventilators
- 513 U-C Lite Automatic Emergency Lights

THE SCHOOL EXECUTIVE, 470 Fourth Ave., New York 16, N. Y. **August, 1956**

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

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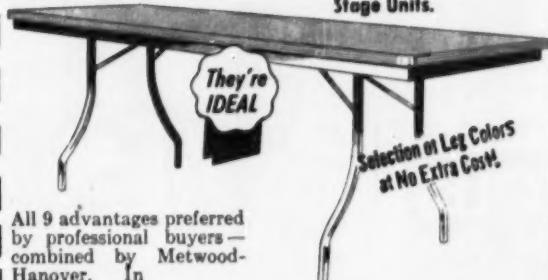
INSTITUTION _____

ADDRESS _____ CITY _____ ZONE _____ STATE _____

SE-289

Choice of Professional Buyers

The Tri-Balance Strength of Metwood-Hanover Folding Tables, Benches, Stage Units.



All 9 advantages preferred by professional buyers—combined by Metwood-Hanover. In high-pressure plastics, masonite and plywood tops. Write for specification sheets, without obligation... see how tri-balance strength fulfills your needs.

METWOOD MFG. CO. INC.
Hanover, Pa.

Metwood Hanover

FOLDING TABLES

SE-291

TEAM SAVES 10 MEN,
300 HOURS IN LABOR COST.
AT NEWSPAPER



"The Kent offset motor design cuts down operator fatigue, produces more and better work results per man hour of labor than any other method," says Building Manager L. G. Prine, of the Lansing Michigan State Journal.

Daily usage of Kent equipment has saved 300 hours per week or 10 men in the Journal building. Pictured above is the offset motor Kent floor machine being used for wet scrubbing with pickup by a companion vacuum.

Your maintenance problems may differ from the Lansing State Journal operation but Kent has the answer to cut costs for you. Kent's exclusive offset motor design allows up to 18.9% more cost savings than conventional center-mount machines besides cutting down on operator fatigue by minimizing torque and balancing handle weight.

Kent's motor is fully enclosed, at no extra cost—highly important where dampness or dust could hamper motor operation. Gears are cushioned by another Kent exclusive process to withstand starting shock.

If you have maintenance problems and want to save money, write us today. Our representative will gladly call.

Kent manufactures Commercial Vacuum Cleaners, Boiler Cleaners, and a complete line of Floor Maintenance Machines.



VACUUM CLEANERS — For wet or dry work, both the Quiet Triple Power (illustrated in photo at top of page) and the new Quiet Jumbo (above) have a special by-pass motor... no dust or moisture from vacuum stream can enter motor and cause damage. Two smaller sizes also available.



Top view shows exclusive Kent "offset motor" design—Balanced Power!

KENT

PIONEER IN MAINTENANCE EQUIPMENT SINCE 1915

KENT CO., INC.

420 Canal Street, Rome, New York

Yes, I want to cut maintenance costs. Please send full information and literature at no obligation to me. I'm interested in () Floor Machines, () Vacuum Cleaners, () Boiler Cleaners.

Name.....

Firm Name.....

Address.....

City.....

State.....

Master Lock Company, Milwaukee 45, Wis.
World's Largest Padlock Manufacturers

FOOD SERVICE

Decorated Trays SE-417 12 Different Patterns Available

Tempo-Trays feature contemporary patterns in keeping with current trends toward more colorful, modern decor. Twelve different patterns, each in a choice of three color combinations are offered. The patterns have been designed by well-known artists such as George Nelson, Paul McCobb, Dali, and Noguchi.



In addition to the new design features, the Bolta Tempo-Trays have all of the durable, long-wearing qual-

ties found in regular Bolta Trays.

THE GENERAL TIRE & RUBBER CO.,
Bolta Products Div., Lawrence, Mass.

Pot and Pan Washer SE-418

In Single, Double Compartment Models



Automatic washing of pots and pans in school kitchens is now possible with the FMC Utensil Washer. This stainless steel machine can be obtained in a small, single compartment model which only occupies 33½ x 39" of floor space and a double compartment model which allows washing one tray of pans while another is being rinsed. The single compartment model is intended for schools serving 500 meals or less per day while the other is adequate for schools or colleges serving from 500 to 10,000 meals per day.

Washing action is accomplished by upper and lower revolving spray manifolds that force high velocity, high pressure jets of hot water to every part of the utensils.

FOOD MACHINERY & CHEMICAL CORP., Kitchen Equipment Dept., Hoopeston, Ill.

SE-419

Table Top Refrigerator

Is 5 Cu. Ft. Unit

The new Glasco Table Top Refrigerator adds 660 sq. in. of counter-height work surface and an extra 324 sq. in. of wall cabinet area. The unit features a five cu. ft. storage space with three shelves and freezing space for 63 ice cubes or 10 lbs. of food. A special feature is the 1½" Select Maple Cutting Board available as an accessory.

Overall dimensions of the refrigerator are 27" wide, 24½" deep, and 34½" high with adjustable gliders.

GLASCO BROS. MFG. CO., 1520 W. Fifth St., Muncie, Ind.

SE-292

Midwest FOLDING TABLES

PORTABLE PLATFORMS FOLDING STAGE
FOLDING BAND STANDS

MIDWEST FOLDING TABLES

Midwest offers you a complete line of folding tables for every school need. Easy folding! Compact storage! Beautiful design! Featuring the famous Du-Honey 20 safety lock-positive protection in both the folded and the extended position. All-welded construction! Reinforced recessed steel apron. Improved leg design for added sitting comfort! Your choice of styles and a wide range of sizes.



PORTRAIT FOLDING PLATFORMS

A heavy duty folding platform for auditorium, gym and multi-purpose room use. Size 4 ft. x 8 ft. Choice of 5 different heights. Du-Honey 20 automatic leg locks. ¾ in. plywood top. Folds compactly.

CHORAL and BAND STANDS



Folding portable choral and band stands available in 18" or 36" widths; straight or tapered end styles; in range of 4 different heights. Folds easily, stores compactly.

Write today, for complete catalog!

Midwest

FOLDING PRODUCTS SALES CORP.
DEPT. 668 ROSELLE, ILLINOIS

TABLE & CHAIR CADDIES

Save time and effort! Reduce noise and confusion! Solve your problem of moving and storage of your folding tables and chairs with a Midwest Caddy. Designed to handle all types of folding chairs and any size table. Built for rugged service. Smooth rolling rubber caster wheels for effortless handling.



MIDWEST PORTABLE FOLDING STAGE

A new self-contained portable folding stage that's ideal for classroom use. Makes a strong spacious stage 8 ft. x 11 ft. 8 in. Entirely self-contained—no loose parts—no tools needed to set it up. Can be folded in a few seconds and moved from room to room. When folded is 8 ft. x 19" x 39". Equipped with easy rolling swivel casters with hard rubber tires. Patented safety locks. Extra heavy center supports.



peel all vegetables
the easy way with
Univex

VEGETABLE PEELER

MODEL G
\$150.00

**NO OTHER PEELER
AT THIS PRICE HAS
ALL THESE FEATURES**

Portable — Just plug in — Stainless steel construction — Peels 20 lbs. in one minute — Automatically timed (set it — forget it) — Peeling disk unconditionally guaranteed 2 years

Compare

Saves up to \$3 per 100 lbs. over hand peeling.

MODEL GP
Univex Floor Model
For Permanent Installation
All Stainless with adjustable legs and discharge
\$240.00



Prices Slightly Higher in West

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INDUSTRIES**

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SE-294



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SHELVING**

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BULLETIN
502**



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475 Struthers St.
WARREN, PENNSYLVANIA

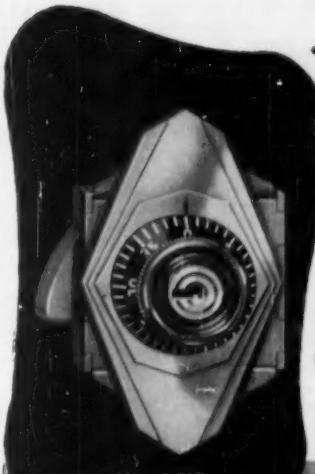
A DIV. OF ROYAL METAL MFG., CO.



LARSEN JUNIOR HIGH

Elgin, Illinois

Selects
**NATIONAL
LOCK**
*built-in
self-locking
COMBINATION
LOCKS*



No. 68-267
Masterkeyed



LeRoy Thompson, Elmer Gilleck, associate architects

Another leading school selects National Lock built-in Combination Locks. Time and again, when careful consideration is given to lock quality, dependable, low-cost security and simplified, efficient locker control, National Lock is specified. Make certain this superior lock is an integral part of the new lockers you buy. Write for full information.

**NATIONAL LOCK BUILT-IN, SHACKLE, CABINET
LOCKS FOR DEPENDABLE, LOW-COST PROTECTION**

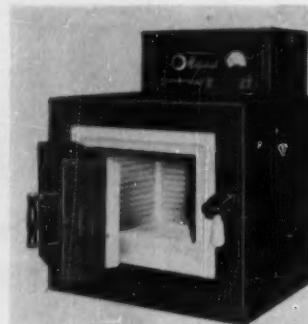


NATIONAL LOCK COMPANY
ROCKFORD, ILLINOIS • LOCK DIVISION

TEACHING MATERIALS

SE-420 High Temperature Kiln Has 7" of Insulation

Hotpack's Model No. 7021 kiln with temperatures up to 2350 degrees F. features heavy-duty 1" thick high temperature ceramic holders which support the Kanthal A coiled heater element; 7" of insulation; a built-in Pyrometer. A safety feature is the built-in Hotpack Limitor which



turns off the current to the kiln at a

predetermined time when preset by the operator.

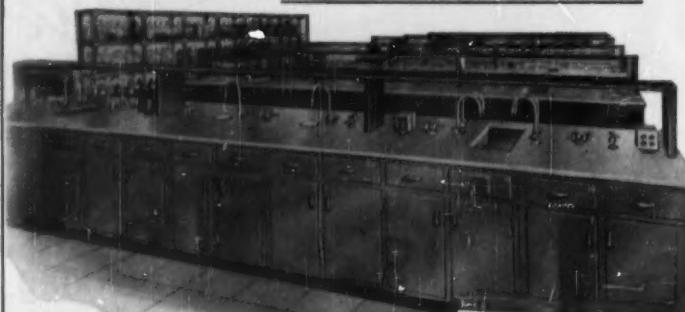
The kiln also includes fast come-up time of 5 hours to 2300°F.; a built-in 3 heat switch with indicating dial of low, medium, high and off positions which controls the temperature at 800°F., 1500°F. and 2300°F. respectively.

The controls are grouped in a special instrument panel at eye level.

ELECTRIC HOTPACK CO., INC.,
5055 Cottman St., Philadelphia 35,
Pa.

SE-296 METALAB LABORATORIES

...at the top of the class



SCHOOL EQUIPMENT

Reports received from our many satisfied school customers indicate that METALAB merits a TOP RATING. Let us achieve these high ratings for your various school projects such as Science, Homemaking, Shop, Arts & Crafts, etc.

The listing below is representative of the complete METALAB line of Classroom Equipment:

• BIOLOGY, CHEMISTRY, PHYSICS EQUIPMENT

Combination Science Desks	Multi-Purpose Tables
Chemistry Tables	Students' Desks
Instructors' Desks	Physics Tables
All-Purpose Tables	Storage Units
Biochemistry Tables	School Fume Hoods

• HOMEMAKING, INDUSTRIAL ARTS, & DOMESTIC SCIENCE EQUIPMENT

Unit Kitchens	Wall Assemblies
Dietetic Preparation Tables	Tote Tray Cabinets
Shop Benches	Arts & Crafts Assemblies
Utility Tables	Stockroom & Library Equipment

LET OUR SALES ENGINEERS HELP YOU TO MAKE THE GRADE!

METALAB *Equipment Company*

242 DUFFY AVENUE, HICKSVILLE, L. I., NEW YORK



We are interested in your free planning service.

Please send condensed Educational Catalog EC-2. Please send 180-page Catalog 48.

Name _____ Title _____

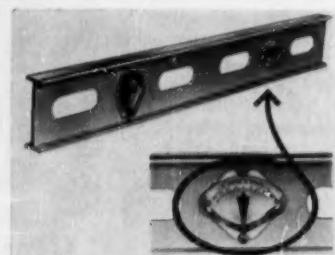
Institution _____

Address _____

City _____ Zone _____ State _____

SE-421 Levels

Are Hairline Accurate



New magnesium span bar levels read all angles, slopes, and pitches, plus verticals and horizontals. The semi-floating plumb bob is sealed in non-freezing liquid plastic which dampens oscillation. The reverse side is calibrated in inch rise per foot.

Made in 18", 24", 30" and 48" sizes.

PICKETT PRODUCTS, INC., 1109 S. Fremont Ave., Alhambra, Calif.

SE-422

Film Rewind Equipment

By Footpedal Control

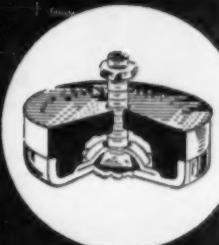
The new Foster Rewind completely controls film winding, both forward and reverse, by a footpedal control leaving both hands free for careful inspection and quick repairs. Both reels operate synchronously, stopping instantly upon break of film or release of foot from pedal.

Simplicity and ease of operation are features. The two reel shafts are inclined upward slightly, which eliminates the need for snap button or lock to secure reels when in motion, and permits mounting or dismounting reel with one hand.

INTERNATIONAL FILM BUREAU INC., 57 E. Jackson Blvd., Chicago 4, Ill.

SPHINX

Noiseless
CHAIR
GLIDES



MADE ESPECIALLY FOR
SCHOOL FURNITURE

Replacing worn out glides is expensive . . .
save this expense . . . request Sphinx long
wearing glides. If not available from your
dealer, send your order direct. Write for
samples, no obligation.



MEDART

TELESCOPIC*
GYM SEATS

Open, they provide safe, comfortable seating for capacity crowds; closed, they free almost every foot of floor area for class use.

Medart Seats have a self-supporting steel understructure that safely carries loads of 400 pounds per foot per row. Wood members add additional strength. Each row is supported on 4 vertical steel uprights that place the load on the floor. Automatic retracting rubber-cushioned rollers protect floors. One row, or as many rows as needed, may be opened and remaining rows locked in closed position. Exclusive "Floating Motion" design makes them easy to open and close. Many other features that save upkeep and money.

Write For Catalog

*Medart Telescopic Gym Seats are fully protected by U.S. Patents.

FRED MEDART PRODUCTS, INC.
3535 DeKalb St. St. Louis 18, Mo.



From "ABACUS" To "ZOO BIRDS"

Abacus	152	153	Beadcraft	150	" Hekigraph
Abraham Lincoln	169		Beaded Pegs	151	Card Cabinets
Access	102		Beads, Wooden	150, 151	16-19
Acces	96		Gongs	42, 43	Cutters
Ace S			Shop	31	Punches
Action					Supplies
Activ					101
Addit					as, Library
Addit					Report
Adhe					bel Warp
Adhe					ing Tools
Adjus					12
Advic					Boxer
" T					sters, Chair
Addit					asticide
Adhe					lophane Tape
Adju					ment, Chalk
Advic					and Cork
" C					ment, Rubber
Afr					ramics Manu-
Afr					rtificates and
Air					Diplomas
po					hains, Swing,
Air					hair Cane
Air					Casters
Al					Cushions
Fl					Desks
Al					Gildes
Fl					Tips & Gift
Al					Truck
Fl					hairs, Arm
di					Classroom
Al					Folding
Fl					Kindergart
Al					Office
Fl					Swivel
Al					Tablet Art
Fl					Teachers' Chalkboard
Al					44
Fl					Chalk Tr
Fl					Chamois
Fl					Compass
Cal					Crayons
Fling					Draw, In-
Sup					Easels
Fire					Erasers
First					Flash Ca
Fixa					Erased
Ato Series	169		Board Fin	12	Pantogr
Flxxt Anatomical Chart	69		Mounting	12	Pointers
Flag, Animals Eraser	53		Board Bulletin	46	Portable
Hole-in-Du-Sonic Chalk	34		Drawings	49	Reversi
Flam Animal Bird	10		Place	10	Rivers
Paper	10		binding	10	Slatting
Flash Animal Pets from	166		piles	96	Natural
Horse and Far	178		Book Cards	182	Outline
Flatbed Animal Pictures	178		Color	175	Pantogr
Whee	1		Spots	175	Pointers
Flexibl	1		Stamps	175	Portable
Floor	1		Books	175	Reversi
" Fin Apparatus, Science	125		Bookcases	10	Rivers
Labels	1		Backs	28-30, 178	Slatting
Lab. Equipment	1		Bed-Sleeping Desk	31	Slide
Lab. Supplies	1		Books	71-102	Soaps
Lab. Tools	1		Board	71-102	Soaps
Laces for Lead	15		Books	71-102	Soaps
Lacing Shoe	151		Medicines	70	Soaps
Lacquering Brush	119		Memorial Plates	99, 102	Soaps
Ladder, Playground	37		Mending Tools	99, 102	Soaps
Ladders, Step	81		Merryland L	99	Soaps
Lambs, Sheep	98		Museum	102	Soaps
Lambs, Transport	14		Museum	102	Soaps
Lambs, Wool	120		Music	102	Soaps
Lang	1		Music	102	Soaps
Latin American	1		Music	102	Soaps
Leaders	1		Music	102	Soaps
Leaders of the	1		Music	102	Soaps
Fighters	1		Molding	102	Soaps
Lead Pencil	92		Metal Tap	102	Soaps
Lead Pencil	92		Metric Tools	102	Soaps
Leatherballs	1		Metric Tubs	102	Soaps
Leatherballs	1		Metric Tubs	102	Soaps
Leatherballs	1		Metric Tubs	102	Soaps
Leathers, Tools	1		Metric Tubs	102	Soaps
Lecterns	1		Metric Tubs	102	Soaps
Lee, Robert E.	64		Molding	102	Soaps
Legal Cap Paper	64		Metal Tap	102	Soaps
Legend of Sleepy	63		Metric Tools	102	Soaps
Hollow	1		Metric Tubs	102	Soaps
Lesson Plan Book	187		Metric Tubs	102	Soaps
Let's be Popular	187		Metric Tubs	102	Soaps
Let's Find Out	187		Metric Tubs	102	Soaps
Let's Go	187		Metric Tubs	102	Soaps
Theo	97		Metric Tubs	102	Soaps
Let's Go	38		Metric Tubs	102	Soaps
and	54		Metric Tubs	102	Soaps
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YOUR NEEDS NOW—IF YOU HAVEN'T			Metric Tubs	102	Soaps
RECEIVED THIS CATALOG, WRITE US.			Metric Tubs	102	Soaps
BECKLEY-CARDY			Metric Tubs	102	Soaps
1900 N. Narragansett, Chicago 39, Ill.			Metric Tubs	102	Soaps

See over 5000
School Needs
in THE BLC BUYERS
GUIDE NO. 102

Order
1956-57

YOUR NEEDS NOW—IF YOU HAVEN'T

RECEIVED THIS CATALOG, WRITE US.

BECKLEY-CARDY

1900 N. Narragansett, Chicago 39, Ill.

TEACHING MATERIALS

SE-423

Phonograph Tone Arm

Children Can Operate

By using the Viscous Damped Gray Tone Arm, which literally floats the arm onto the record without damage, children of any age can now operate the record player without damage. The Gray Tone Arm is available with or without the Gray Turntable which has been built like



a "battleship" to withstand heavy everyday usage.

GRAY RESEARCH & DEVELOPMENT
Co., Manchester, Conn.

SE-424

Blackboard White Ink

Is Semi-Permanent

Blackboard White Ink is used in a specially designed felt marking pen. A steel edge ruler, a yard stick, or a long thin board may be utilized for lining blackboards or for drawing basic diagrams.

The white ink is designed so that chalk additions may be made to the basic diagrams, sketches, music charts, tables, graphs, assignments, laboratory procedures, or for writing with chalk on the lines.

The chalk marks may be erased or washed from the board without removing the lines made with the white ink. The ink is easily removed with a cloth dampened with any dry cleaning solvent.

TIME-SAVING SPECIALTIES, 2816
Dupont Ave., S., Minneapolis 8,
Minn.

SE-425

Disc Recorder

and Playback Reproducer



The Imperial is a new portable disc recorder and playback reproducer, featuring a newly designed overhead cutting lathe with interchangeable leadscrews, and with provision for making run-in and run-off grooves. It is also calibrated for timing.

The amplifier serves for both recording and playback and has high level and low level inputs for recording live, from tape, off-the-air, or from other record discs. A recording level meter is mounted on the control panel, which also includes volume, level and mixing controls.

The entire recorder and playback unit is contained in a single carrying case.

REK-O-KUT Co., 38-01 Queens
Blvd., Long Island City 1, N. Y.



with the SPENCER VACUSLOT

Just move the mop across a vacuum slot in the floor. Each strand of the mop is pulled into the slot and agitated violently by the inrush of air. All dirt and dust is carried down to a closed separator in the basement.

In addition, connections can be made for the use of standard Spencer vacuum cleaning tools for cleaning floors, picking up spilled liquids, cleaning boiler tubes, and many other uses. Installation is simple—one vertical pipe line to all floors. Maintenance and operating costs are negligible.

Bulletin No. 153 gives complete description and specification of the VACUSLOT system, including the new application of tubing which greatly reduces installation costs.



Send for
Bulletin
153

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER
HARTFORD

501-A

SE-301



WRITE FOR
DETAILS TO
DEPT. S-E

AT LAST!
A truly
ADJUSTABLE
Typewriter
Table
with ALL
the Features
you've been
looking for!...

- **STURDY** DOES NOT VIBRATE
- **SILENT** MOUNTED IN RUBBER
- **ADJUSTABLE** SELF-LOCKING UNIT
- **MODERN DESIGN**
- **ECONOMICAL** ALL STEEL CONSTRUCTION



Drop-Leaf Table



A-H-H-H
SEMCO!!

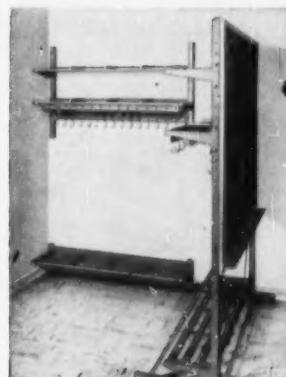


Bookkeeping Table

SEMCO SALES

PINELLAS INT. AIRPORT
ST. PETERSBURG, FLORIDA

SE-302



Schooline®
WARDROBE SYSTEMS
Chalkrobes*
Corkrobes*
Wallmounts*

TRADE MARKS

A completely flexible system of large capacity, wardrobe racks with adjustable shelves (any height to accommodate different aged groups). Dual-purpose—each backed with a chalk board or a cork board, also serves as moveable screens or room dividers. Each 4 ft. unit holds 16 spaced-apart coat hangers or 24 coat hooks, and provides 2 hat shelves and an off-the-floor over-shoe shelf.

Chalkrobe*
as described above with 48" x 50" green composition chalk board back complete with molding and eraser tray.



Corkrobe*
as described above with 48" x 50" corkboard (pin up bulletin board) in attractive metal molding.



Wallmount* WARDROBE RACKS
Hat and Coat racks, with adjustable height shelves mount directly on wall. Also over-shoe shelf Wallmounts.

Write for Bulletin SL-91

VOGEL-PETERSON CO.
1127 West 37th Street • Chicago 9, Illinois

SE-303

One good look will tell you...

best buys in sight
Da-Lite®

SLIDE AND MOVIE SCREENS



the world's most complete line of screens . . .
and the standard by which all others are judged.

Da-Lite Model B* New wall and ceiling screen at a budget price! Goes up in seconds. White Magic glass-beaded fabric, mildew and flame-resistant.

30"x40" — 72"x96" \$13.50 — \$70.00

Da-Lite Motor-Roll® Electrically operated, complete with automatic safety stops! Shipped ready to hang, plug in and operate. Unrolls, stops automatically!

6"x8" — 12"x12"
\$220.00 — \$280.00



Da-Lite Hilo® World's only A-V "Push-Button" screen! Can be set from 14" to 48" above floor. White Magic fabric, mildew and flame-resistant!

50"x50" — 70"x70" \$35.25 — \$54.00

For better, brighter slides and movies, see Da-Lite—from \$3.50 to \$690.00.

Mail today for free booklet! No obligation! *Trade Mark

Perfection
in Projection Since 1909



DA-LITE SCREEN CO.
2711-23 N. Pulaski Road
Chicago 39, Illinois

DA-LITE SCREEN CO.
2711-23 N. Pulaski Road
Chicago 39, Illinois

Please send me my free booklet!

Name _____

Organization _____

Address _____

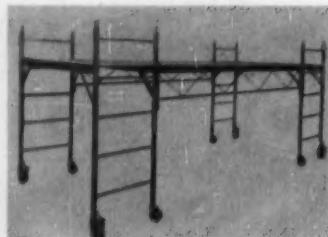
City _____ Zone _____ State _____

MAINTENANCE

Scaffold Assembly SE-426

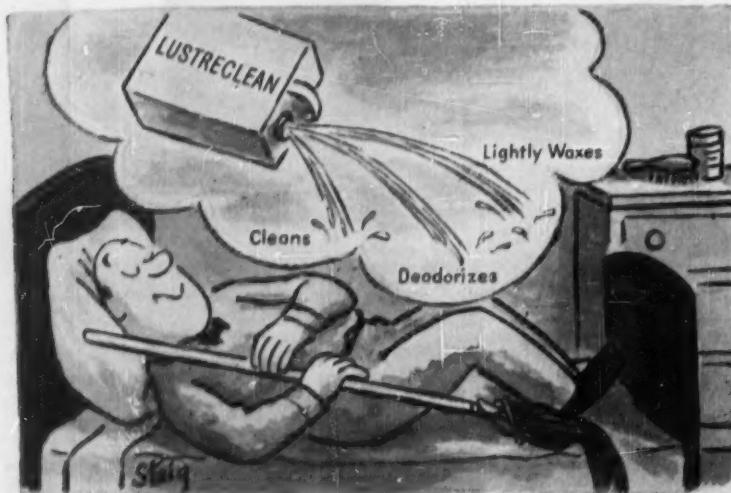
Covers Large Floor Area

The Baker Scaffold Auxiliary Platform assembly is available in lengths which provide platforms up to 14', 6" including the two supporting Baker Scaffolds. The span between the two supporting Baker Scaffold units is a rigid truss construction, for maximum strength and rigidity with a minimum weight factor.



The assembly incorporates the safety locking features found in all Baker Scaffolds and is fully adjustable for height every 3" even when units are stacked for height. The

SE-426



"It's a maintenance man's dream of a floor cleaner come true."

One application of LUSTRECLEAN on your floors:

- cleans
- deodorizes
- lightly waxes.

Figure your savings!

- in dollars
- in time
- in simplicity.

USE LUSTRECLEAN on wood, composition, rubber, cement, terrazzo, painted and unpainted surfaces.

OLDEST AND LARGEST COMPANY
OF ITS KIND IN THE WORLD



Branches in Principal Cities

FREE FOLDER
Use your business letterhead
to request our folder on
the efficiency of LUSTRECLEAN

WEST DISINFECTION COMPANY
Dept. 15, 42-16 West St., Long Island City 1, N. Y.
In Canada: 5621-23 Casgrain Ave., Montreal



metal-bound plywood platforms are included in the scaffold assembly.

BAKER-ROOS, INC., 602 W. McCarty St., Indianapolis 6, Ind.

Closet Bolt Caps SE-427

Require No Plaster or Cement

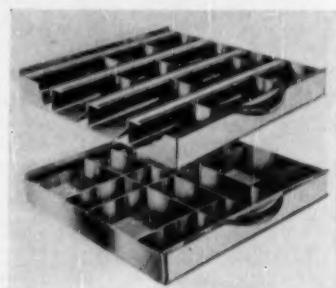
Assembling closet bolt caps on toilet bowls or urinals is handled quickly and easily with no messy plaster or cement, using the new Sexauer Deluxe Closet Bolt Caps. These caps have a brass bushing which takes the place of the plated brass washer normally used under the head of the bolt or screw. A "slot" in the brass bushing makes it easily adjustable to any desired position, so that the cap is properly located on any style of fixture. After the nut is installed and tightened, it holds the bushing firmly in place; the plastic cap is merely screwed on and the job is done.

The caps eliminate frequent replacement.

J. A. SEXAUER MFG. CO., INC.,
Dept. XP, 2503-05 Third Ave., New
York 51, N.Y.

Small Part Storage SE-428 Drawers

Will Stack



Little Gem Cabinets for small parts storage are now available in a choice of two different drawers. Type A Drawer offers as many as 28 instantly adjustable compartments. Compartment surfaces are curved for easy dispensing; overhang prevents jumbling of parts; labelholders assure easy identification of all parts. Type B Drawers have 36 adjustable compartments; a giant labelholder on the front of the drawer; enclosed bottom and sides and top to prevent spilling.

EQUIPTO, Aurora, Ill.

New LOW-COST **BTC** Budget-Rite FOLDING TABLE



FIRST TIME! A folding table comparable to expensive models in quality and appearance . . . for as low as \$22.40. Really rugged . . . supports over 20 times its own weight. No knee interference thanks to pedestal legs.

BTC Budget-Rite Table has all the features of more expensive tables:



1. Modern styling
2. Two sizes 6' or 8'
3. Plywood or Masonite Preswood tops
4. Satin-finish metal molding
5. Tubular steel legs
6. Chrome-plated glides

7. Quick and easy to set up



8. All-steel frame

FREE BULLETIN Describes-illustrates Budget-Rite Table in detail. Write for it!

THE BREWER-TITCHENER CORPORATION • Furniture & Equipment Division • Cortland, N.Y.

SE-306

SE-307

NEUBAUER
"TWIN-POST"
Gym
BASKET RACK

U.S. Pat. No. 2,421,800

Rigid Corner Posts
Safer Recessed Hasps

The Neubauer "TWIN-POST" corners are actually 2 posts with 3 strong corners (see inset circle). They keep the whole basket rack rigid and in line.

Note below how dividers guide and separate baskets and how hasp and padlock are neatly recessed *inside* shelf edge. Eliminates danger of cuts and bruises.

We also make Neubauer "Twin-Post" shelving in range of sizes. Write for literature.

Inquiries invited from school supply dealers.
NEUBAUER MFG. CO.

FREE ESTIMATES — Neubauer gym Basket Racks are made in capacity desired for any size basket and can be equipped with casters. Olive green or airline grey. Special colors available.

517 Lowry Ave. N.E.
Minneapolis 18, Minnesota



American Desk's complete line of school furniture. It's seen in the nation's leading schools . . . and preferred by educators everywhere.



american desk
MANUFACTURING CO.
TEMPLE, TEXAS

MAINTENANCE

Vacuum Cleaners SE-429

Eight Different Models in Line

An all-new line of American vacuums available in 8 different models and with 3, 9, 12, 9/12, and 55 gallon capacities, has been announced. Each vacuum can be used for wet or dry pickup on large or small areas.

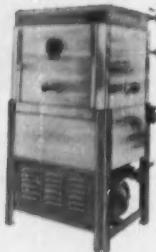
In addition to ordinary cleaning



jobs, any vacuum in the line will remove dust and dirt from venetian

SE-308

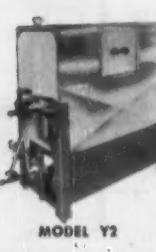
Universal DISHWASHERS in efficient dishwashing systems save their cost



MODEL S



MODEL B



MODEL Y2

Experienced operators know that Universal Dishwasher Systems save their cost in a year or less in savings in time, labor, reduced dish breakage, better washing and sanitizing and lessened labor turnover...and then show a profit from the investment for many years.

Universal Dishwashers Pay for Themselves with these great new dishwashing improvements.

Improved wash coverage: A new stationary wash with patented spray pressure equalizers. A new revolving wash. Swing-wash.

Improved operation: Vee belt connected motor and pump, and using standard NEMA motors. Extensive use of stainless steel interior fittings.

Improved appearance: Modern design, using #302 stainless steel with #4 mill finish. Stainless Steel De Luxe legs, panels, covers, dishracks, available as optional equipment.

Other important improvements: Gas, Electric or Steam operated Boosters for required 180° final rinse and sterilization.

Automatic timing controls for wash and rinse cycle on door models. Labor saving, more uniform sterilization. 36 models of "right sized" commercial type dish, glass and silver washing machines.

For the latest information on modern "cost-saving" dishwashing layouts, consult your Universal Dishwashing Machinery dealer or write to us for full information.

Send for complete catalog today

Universal
DISHWASHING MACHINERY CO.



57 WINDSOR PLACE, NUTLEY 10, NEW JERSEY
Los Angeles Branch: 2707 W. 54 Street, Los Angeles, Cal.

World's Largest Exclusive Producer of Commercial Type Dish, Glass and Silver Washing Machines

blinds, draperies, radiators, pipes, coils, walls, ceilings, even furnaces.

THE AMERICAN FLOOR SURFACING MACHINE Co., Toledo 3, Ohio.

SE-430

Waterless Hand Cleaner

Is Extremely Mild

West Waterless Hand Cleaner is a white, liquid emulsion specially formulated to remove soil, grease, inks, paints and grime from the skin. The new product, with mild, odorless ingredients, has an almost neutral pH and is, therefore, extremely mild to the skin.

The cleaner contains a relatively high amount of Lanolin and a light perfume.

WEST DISINFECTING Co., 42-16 West St., Long Island City, N. Y.

SE-431

Floor Cleaning Machine Combination Unit is Versatile



The Lawlor-matic scrubs, flood rinses and picks up the dirty water at the rate of 2,000 to over 15,000 sq. ft. per hour, depending on the speed the operator sets the machine. With it, one man can really do the work of three.

The tanks are lined with a new compound making them impervious to detergents, acids, alcohol and other destructive ingredients of soaps. The Fresh Water Tank is a 13-gallon capacity; Vacuum tank, 17-gallon. An auxiliary hand squeegee vacuums water up from corners and along edges.

S. C. LAWLOR Co., 124 N. Aberdeen St., Chicago 7, Ill.

THE SCHOOL EXECUTIVE

SE-309

GIVE YOUR JANITORS THE BEST!

SHAMROCK

JANITOR SERVICE WAGONS

Sanitary—Efficient!

Roll Easily—Won't
Scar or Mar Floors.

CANVAS BAGS . . .
Replaceable—Washable

The Shamrock No. 75 Janitor Service Wagon is lightweight and labor-saving . . . helps your janitors cover more area in less time. Sturdy steel frame collapses into small space. Equipped with two 2-inch hard composition casters, and white canvas bag. Wagon measures 20" x 19" x 43" high when bag is open. Crommeted bag is washable; drawstring closure keeps contents secure when bag is taken from frame. Extra bags, white or O.D., are available. Famous Shamrock Canvas Products are used the world over! . . . Write for Literature and Prices!

Mfd. by MESE, INC., Madison, Ind.

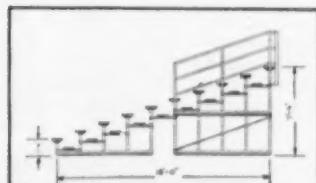
ECONOMICAL SAFE SEATING

for any size
audience

AMERICAN-UNIVERSAL GALVANIZED BLEACHERS

"Package
Units"
at low cost

Engineered to national standards; provide exact number of seat-rows for present needs—economically expanded in depth and section for future plans. Prefabricated structural steel members Galvanized for thorough protection against rust and corrosion—at no extra cost.



These bleachers are de-
signed for permanent,
semi-permanent, or
temporary seating at all
types of indoor or out-
door events.

UNIVERSAL
MANUFACTURING CORP.

Write for New Bulletin
ZELIENOPLE 7, PA.

August, 1956

SE-311

surface coat of ordinary
varnish and lacquerdeep penetrating
RYNOSSEAL coat

you save 50% and more
if the finish goes in . . .

RYNOSSEAL

heavy-duty wood finish



ORDINARY wood finishes lay on the surface and are scuffed and worn away by active feet. RYNOSSEAL, however, wears almost like the wood itself because it penetrates deep to fill and bond to wood pores . . . builds up solidly to a tough, impenetrable surface with a velvet-like sheen.

—Cuts cleaning costs and maintenance . . . Wipe off surface dirt with a dry mop! Restore original luster time after time with only a light brushing. Neither dirt nor water and stains can penetrate the deep-down RYNOSSEAL protection.—Erase surface stains and even surface burns by light rubbing with steel wool. Spot-patch invisibly between over-all coats!

—Primes . . . Seals . . . Finishes. This one remarkable liquid does all three. For old or new surfaces,—all woods. Also recommended for wood-work, desks, tables, etc.

Write for free literature.

SOUTHERN COATINGS & CHEMICAL CO., Sumter, S.C.



AUDIO-VISUAL AIDS

SE-501 New Film Catalog

A new catalog of 674 films for classroom instructional use has been published by United World Films, Inc. It lists and describes subjects designed for school use in the following curriculum areas: adult education, home economics, science, business education, music and art, social studies, child guidance—development, physical education, teacher training and vocational guidance and education. UNITED WORLD FILMS, INC., Government Dept., 1445 Park Ave., New York 29, N. Y.

SE-502 Sound Slidefilms

Twenty-four new sound slidefilms for intermediate and junior high school grades have been released by the DuKane Corp. The production covers four subject series: Life in the Middle Ages, Biology-I, Geography-II, and Area and Volume. Student operators can at will stop a record whenever the teacher, a class member, or the script itself asks questions or calls for discussion. DUKANE CORP., St. Charles, Ill.

SE-503 Color Filmstrips

Two new sets of color filmstrips for school use are available from Young America

Films, Inc. *We Take A Trip Series*, for kindergarten and primary grades, is built around interesting trips taken by a young boy and girl. Individual filmstrips included in the set are: *A Trip to the Zoo*, *A Trip to the Beach*, *A Trip to the Fair*, and *A Trip to the Museum*. *Indians of The Eastern Woodlands*, for intermediate and upper grades, deals historically with the life and culture of the American Indians of the northeastern section of America. The six filmstrips in this set deal with clothing, food, shelter, arts and crafts, life and customs, and dances and ceremonies. YOUNG AMERICA FILMS, INC., 18 East 41st St., New York 17, N. Y.

SE-504 Guidance Discussion Series

To help teen-agers understand some of the problems they face as they grow up physically, mentally, emotionally and socially, The Jam Handy Organization has prepared a Guidance Discussion Series consisting of seven filmstrips in color. Directed to junior high school grade level the series helps adolescents realize that their problems are shared by others. Each filmstrip reveals problems relative to the physical, mental, emotional or social growth of students in the early teens. The problems are those which research shows are the cause of greatest concern to adolescents. THE JAM HANDY ORGANIZATION, 2821 E. Grand Blvd., Detroit 11, Mich.

SE-505 Records for Teaching

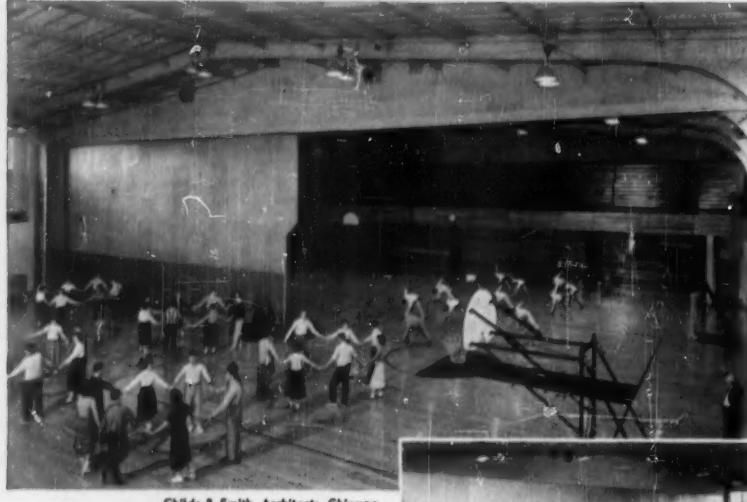
Columbia Records has released a four-page pamphlet describing *How to use records to help you teach*. It conveys how many school systems have found it necessary to set up central record libraries in individual school buildings to meet the demand for recordings. Here the records are cataloged, stored, and distributed within a specific building. Thus children and teachers are aware of what material is available and where to obtain it. A listing of various subjects and how they have been employed successfully in classrooms is included. Three full pages of the pamphlet list Columbia educational records in the following categories: Social Studies—American Music and Folklore; Social Studies—Music from Countries Around the World; Our Community; Safety; Sports; Health and Hygiene; Manners; Holidays; Science; Language Arts; Music Appreciation; Rhythms; and Instruments of the Orchestra. COLUMBIA RECORDS, Educational Div., 799 Seventh Ave., New York 19, N. Y.

SE-506 Machine Dishwashing Slide Film

A new, 17-minute, slide film, in both sound and picture, entitled *Efficient Machine Dishwashing* discusses machine dishwashing procedures, including what operators should do, and what they should not do. The material in the slide film is both practical and instructional. A viewing of this Wyandotte Chemicals machine dishwashing slide film may be arranged by contacting a local Wyandotte representative or by writing to Fred King, Manager Specialized Cleaning Products Dept., WYANDOTTE CHEMICALS CORP., Wyandotte, Mich.

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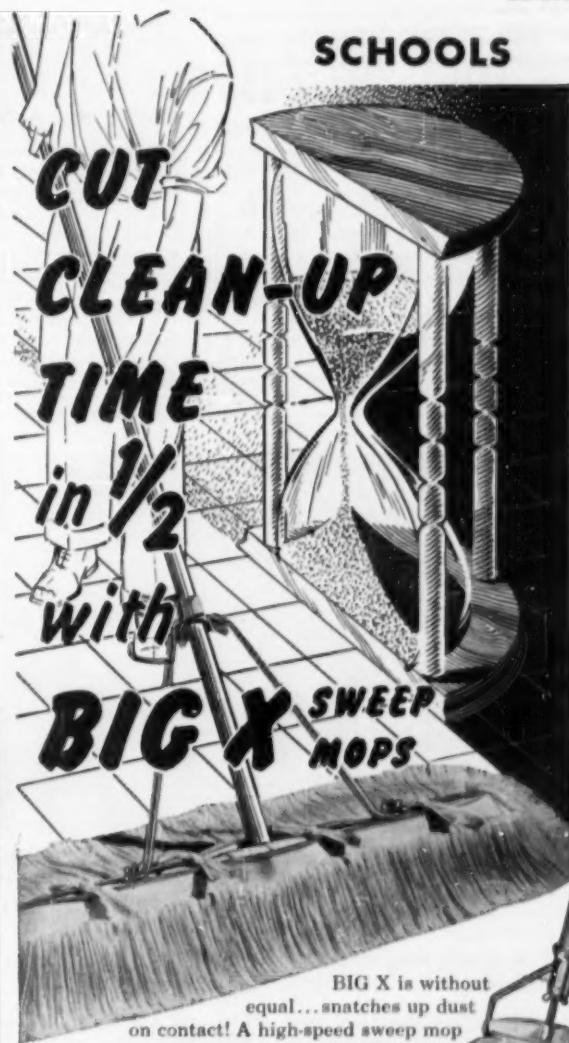
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SE-315



SE-314

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MANUFACTURERS' CATALOGS

SE-507 Incandescent Lighting Unit

No. B-60. A new 20-page engineering bulletin presents specifications, cross-sectional construction drawings, candlepower distribution curves and coefficients of utilization for a wide line of shallow and deep recessed incandescent lighting units. The two-color folio presents this data using one page for each fixture model. Lighting units covered in the brochure include models with face frames of cast aluminum, stainless steel and die-formed steel. Special weatherproof luminaires for all outdoor applications are featured. GRUBER

LIGHTING, 125 So. First St., Brooklyn 11, N. Y.

SE-508 Sound Control Consoles

Catalog S.132. This catalog describes a new line of dual channel consoles for central sound distribution systems. These consoles permit simultaneous distribution of two separate program sources (radio, records, tape, or live microphone pick up). Intercommunication is on a separate channel. Written in non-technical language, this 6-page catalog gives complete application information and fully describes the basic functions of a dual channel sound control console. Major components are

identified by callouts on a full page photograph of a console. Key components are also briefly described. Technical specifications and a dimension drawing of the basic units are included. RADIO CORPORATION OF AMERICA, Building 15-1, Camden, N. J.

SE-509 Gymnasium Seating

How to combine the elements of best line-of-sight for spectators, maximum seating and minimum construction costs in planning gymnasium seating has been answered by The Brunswick-Balke-Collender Co. in its recently released pamphlet, *Comprehensive Analysis of Seating Rise and Back-to-Back Spacing*. The analysis, prepared by the engineering staff of the folding gymnasium seating manufacturer shows the various controlling factors in planning the size and amount of gymnasium seating for an individual structure. The analysis tells of the horizontal and vertical distances involved in the relations of playing court to balcony wall, main floor to balcony floor, and including measurements involving ceiling and spectator railing. HORN DIV., THE BRUNSWICK-BALKE-COLLENDER CO., 623 S. Wabash Ave., Chicago 5, Ill.

SE-316



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Please send more information about Stainless Steel bulk milk dispensers.

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Company

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SE-510 Floor Cleaning Equipment

Catalog No. 156. This 32-page catalog features the White Mop Wringer line of floor cleaning equipment. Model numbers for each piece of equipment is listed along with dimensions and descriptions of each. The cleaning tools covered include: mop wringers, mop squeezers, mopping outfits, mop buckets, mop trucks, mopping tanks, floor squeegees, mop sticks, floor scrapers, dust pans, utility trucks and accessories. WHITE MOP WRINGER CO., Fultonville, N. Y.

SE-511 Glass

The Story of Glass Containers is the title of a new 16-page manual designed for use in elementary schools. It presents information on the origin, manufacture and present day use of glass containers and their contribution to Health, Science, Industry, and Home Life. GLASS CONTAINER MANUFACTURERS INSTITUTE, 99 Park Ave., New York 16, N. Y.

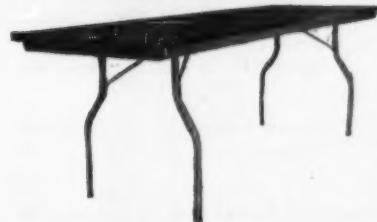
SE-512 Ventilators

American Plant Ventilators. This new four-page bulletin just released by American Steel Band Company gives complete technical data including dimensions, capacities, sectional drawings and operating conditions for power roof, continuous ridge, and round gravity ventilators that meet all exhaust and ventilating conditions. AMERICAN STEEL BAND CO., P. O. Box 565, Pittsburgh 30, Pa.

SE-513 Automatic Emergency Lights

Form No. AEL-655. U-C Lite Mfg. Co. announces the release of a new 4-page folder on their Big Beam Automatic Emergency Lights. The folder gives complete descriptions, suggested uses, and installation recommendations for five Big Beam models. U-C LITE MFG. CO., 1050 West Hubbard St., Chicago 22, Ill.

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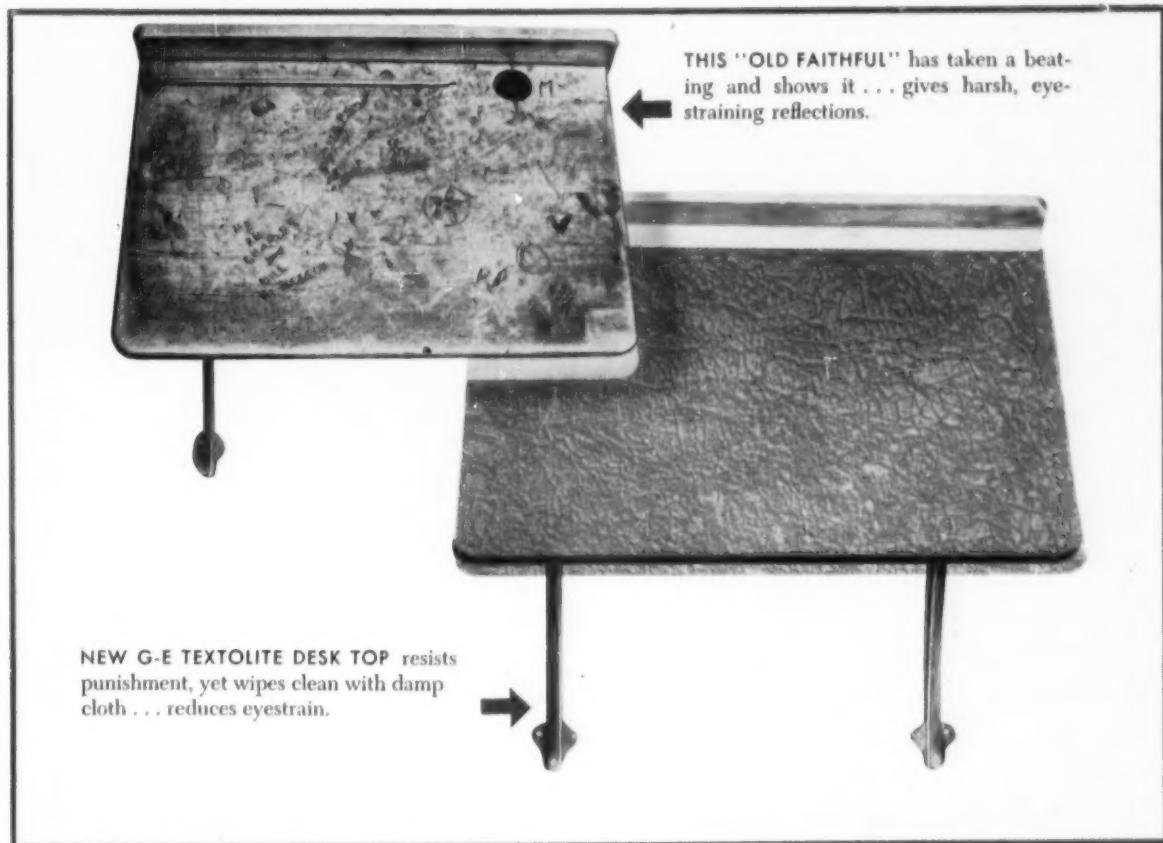


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